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(NASA-TM-X-50092)
TRAJECTORY (NASA)

SATURN SA-3 POSTFLIGHT
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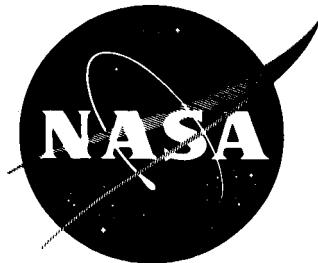
SATURN SA-3 POSTFLIGHT TRAJECTORY (U)

By

John P. Sheets

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SATURN SA-3 POSTFLIGHT TRAJECTORY (U)

By John P. Sheats

(U) ABSTRACT

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This report presents the postflight trajectory for the Saturn SA-3 test flight. Position and velocity components are given in earth-fixed, space-fixed, and geographical coordinate systems. Acceleration components are given in the earth-fixed and space-fixed systems. Several other flight mechanical parameters are also given. Trajectory data are given in 0.5 sec intervals during entire flight until water release, and at significant event times.

This report also shows a comparison between nominal and actual trajectories.

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GEORGE C. MARSHALL SPACE FLIGHT CENTER

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John P. Sheats

FLIGHT EVALUATION BRANCH
AEROBALLISTICS DIVISION

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(U) Definitions of Symbols

Symbol	Definition
Latitude	Geodetic Latitude
Earth Vel	Earth-fixed Geometric Vehicle Velocity Vector
Vel Elev (ϵ)	Elevation Of The Earth-fixed Velocity Vector Referenced To The Local Horizontal
Vel Az (α)	Azimuth Of The Earth-fixed Velocity Vector Measured Clockwise From North
Space Vel	Space-fixed Geometric Vehicle Velocity Vector
IECO & OECO	Inboard And Outboard Engine Cutoff

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(U) SUMMARY

The actual flight path of SA-3 was close to nominal. Slightly lower acceleration caused the altitude and range to be less than nominal at any time during powered flight, but a longer powered flight caused these displacements to be greater than nominal at times after burnout. Water release (Project Highwater) occurred at 292 sec at an altitude of 167.2 km (0.45 km higher than expected).

At IECO the actual altitude was 1.4 km higher, the range was 1.8 km longer, and the velocity was 18.4 m/s greater than nominal.

Data from tracking systems and onboard measurements were used in establishing the postflight trajectory. Although adequate coverage was obtained, the quality in general was poorer than obtained on SA-1 and SA-2.

Position and velocity components are given in earth-fixed, space-fixed, and geographic coordinate systems. Acceleration components are given in the earth-fixed and space-fixed systems. Several flight mechanical parameters are also given throughout flight. This data is given in 0.5 sec intervals, and at all significant event times in tabular form.

1.0 (U) INTRODUCTION

This report is basically concerned with the presentation of the postflight trajectory of Saturn test flight SA-3 which was flown on November 16, 1962. The sources of data available, utilization of this data, and an analysis of the data is presented. The trajectory, from the time of first motion until water release (destruct), is given in tabular form in Table IV through Table VIII. All significant events are shown in these tables. A comparison of the postflight and nominal trajectory

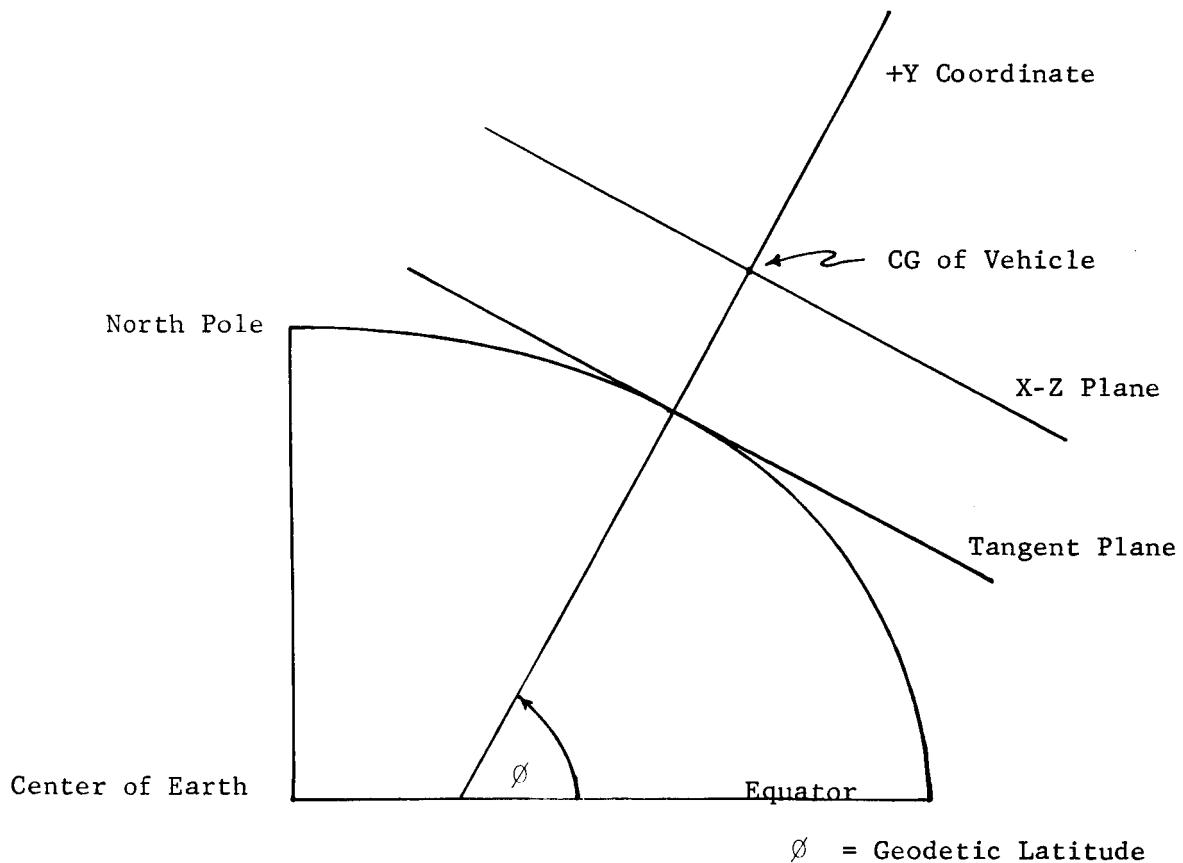
parameters is also given. All times are referenced to Range Zero, 1245:02 EST. For these trajectory calculations, first motion was assumed to occur 0.10 sec after Range Zero.

Acknowledgement is given to Data Reduction Branch, Computation Division for the preparation of the tabulated data in this report.

2.0 (U) COORDINATE SYSTEM AND TRAJECTORY PARAMETERS

The translational motion of the center of gravity of the vehicle is described in several coordinate systems. An initial displacement of 30.5 meters locates the center of gravity in the coordinate systems whose origin lies on the reference ellipsoid.

The origin of the earth-fixed cartesian coordinate system employed for calculations of this trajectory is the projection of the center of gravity of the complete vehicle at liftoff signal on the Clarke Ellipsoid of 1866.



The X-Z plane is tangent to the reference ellipsoid at the origin of the coordinate system. The positive X-axis is oriented in the launch azimuth direction, 100° E of N. The Y-axis is normal to the X-Z plane and is positive above the origin. The Z-axis is normal to the X-Y plane and is in a right handed relation to the X, Y-axes with the positive direction 190° E of N. The origin of this earth-fixed system rotates with an angular velocity identical to that of the earth. The earth-fixed coordinate system is shown in Figure 1.

The space-fixed coordinate system is parallel to the earth-fixed system described above at the instant of launch but the origin of this system, which is at the initial center of gravity of the vehicle, remains fixed in space as oriented at the instant of launch.

Altitude, range, latitude, longitude, and azimuth, elevation and magnitude for the earth-fixed velocity vector are given for the geographic coordinate system. The subvehicle point is defined as the intersection of the reference ellipsoid and the radius vector from the vehicle to the center of the earth. Altitude is the distance from the subvehicle point to the center of gravity of the vehicle. Range is to a high degree of approximation the shortest distance along the earth's surface from the launch site to the subvehicle point (See Appendix).

The geodetic latitude and longitude refer to the subvehicle point. The local horizontal plane is defined as the plane perpendicular to the radius vector from the vehicle to the center of the earth. Azimuth is the angle between the projection of the velocity vector into the local horizontal plane and the north direction in this plane. Elevation is the angle between velocity vector and the local horizontal plane and is positive above the horizontal plane. The geographic coordinate system is shown in Figure 2.

Launch pad coordinates are defined with respect to the Clarke Ellipsoid of 1866 which was chosen to represent the earth and its gravitational field.

The geographical coordinates, based on the Clarke Ellipsoid of 1866, and gravity data for complex VLF 34 at Cape Canaveral are:

Geodetic Latitude:	28.52153° N
Longitude	: 80.56136° W
Gravity	: 9.79248 m/s^2

Elevation above reference ellipsoid

Base of launch pedestal: 4.9 m

CG at first motion : 30.5 m

Launch Date : 16 November 1962

Launch Azimuth : 100° E of N

ST-90 Platform Azimuth: 100.011° E of N

Fin I-III Azimuth : 100.381° E of N

3.0 (U) TRACKING ANALYSIS

3.1 (U) Data Sources

The data available for establishing the trajectory is shown in Tables IA and IB. These tables include the various types of external tracking, the onboard measurements that are useful in determining transients, and meteorological data. Tracking from several systems was available throughout the powered flight (see Figure 3). A sufficient amount of high quality tracking was available to establish a free flight trajectory representing the vehicle path from retrorocket burnout to water release. Some radar sites even provided tracking beyond water release, thus indicating that the booster and the instrument canisters retained structural integrity for a period of time after water release.

The electronic tracking data obtained on this flight was somewhat poorer than on the first two vehicles. Although no simple criteria can be given at this time for determining the relative quality of external tracking that will be applicable to each flight, the random error of the acceleration components during power flight should certainly be less than 1.0 m/sec². This error is about 10 times larger than the requested metric requirements (Ref. 1) for this flight.

Useable Acceleration Components Power Flight Electronic Tracking

Tracking System	Time Available
Azusa	76 - 160 sec
*UDOP - MSFC	35 - 120 sec
UDOP - RCA	30 - 125 sec
Radar	None

*UDOP was reduced by the Data Reduction Branch of Computation Division at MSFC and also by the RCA Service Company at AMR.

FPS-16 radar data was intermittent during the entire flight from all stations. Retrorocket operation and the roll resulting from the misalignment of the retrorockets adversely affected all of the electronic tracking data.

3.2 (U) Data Utilization

The relative motion between the vehicle and support arms was determined from pad measurements YL-1 and YL-2 which were mounted on support arms R-2 and R-4 respectively. These measurements were plunger type. The results of the measurements are shown in Figure 4. First motion was determined to be 0.10 sec range time.

The trajectory as published in this report (Tables IV through VIII) was established in the following manner (see Figure 5):

- 0.0 - 35.0 sec: "Close-in" and "Regular" Fixed Camera, and Theodolite data used in a least squares curve fit assuming that an eighth degree polynomial represents the flight path for that period of time. The resulting curve fit of the data is almost identical with the original input tracking data. This procedure was followed to establish smooth acceleration components during the launch phase of flight.
- 35.0 - 62.0 sec: Theodolite data processed through a smoothing and differentiation program.
- 62.0 - 78.0 sec: Azusa position data processed through a smoothing process. Velocity and acceleration components were calculated from onboard accelerometer and attitude data. These calculated velocity and acceleration data were corrected to fit Theodolite data at 62.0 sec and Azusa data at 78.0 sec.
- 78.0 - 130.0 sec: Azusa position data processed through a smoothing and differentiation program.
- 130.0 - 160.0 sec: The same procedure was used as in the Mach 1 area (62-78 sec) in order to maintain the true characteristics of the large transients that occur in the cutoff and decay sequence.
- 160.0 - 292.0 sec: A ballistic trajectory calculation using Azusa data as initial conditions at 160.0 sec, and adjusted to be compatible with the useable external tracking data after 160 sec.

Measured meteorological data and winds were used in the calculation of the trajectory from liftoff to 33.4 km altitude. Between 33.4 km and 47.0 km altitude, the measured data was adjusted to the 1959 ARDC atmosphere. Above 47.0 km, the 1959 ARDC was used.

Figures 6 through 8 depict the wind components, ambient pressure, and temperature profile used in the calculation of the postflight trajectory.

3.3 (U) Error Analysis Of Actual Trajectory

Good coverage for the launch phase was provided by the "Close-in" and "regular" Fixed Camera and the Theodolite cameras. There was some degradation in quality of the Radar and Azusa data during the first 40 - 50 sec of flight because of surface environmental conditions and multipath effects. All electronic tracking data were adversely affected by retrorocket operation and the vehicle roll resulting from retrorocket misalignment. All of the electronic systems appeared to regain good track for about 20 to 30 sec around 250 sec range time.

Figure 9 shows a time history of the relationship between the established trajectory and the available external tracking data during the first 170 sec of flight. Comparison of the external tracking data with the established trajectory near cutoff and midway of the free flight is shown in the following table.

Tracking System (meters) →	150 sec			240 sec		
	ΔX	ΔY	ΔZ	ΔX	ΔY	ΔZ
Azusa	0	0	0	15	20	3
UDOP	-16	3	-1	-10	34	-22
Radar 1.16	-8	-18	16	-	-	-
0.16	-	-	-	3	4	92
3.16	404	-13	-97	16	31	30
42.16	-12	61	-70	35	21	80

This table indicates that the FPS-16 Radar on GBI (3.16) was able to track the vehicle much better during free flight than during power flight.

The quality of the position data of the trajectory is reflected to some extent in the coordinate comparison shown in Figure 9. The flight simulation of the propulsion system performance was able to match the position vector within ± 4 meters during the entire powered flight (see Ref. 2). Random error in the position components was less than ± 1.0 meters.

Random error in the velocity components is about ± 0.1 m/s. A bias error in the X and Y velocity components was present during the time periods 62-78 sec and 136-151 sec that reach a magnitude of about 0.5 m/sec. The bias error in the Z velocity component reaches about 1.2 to 1.5 m/sec during the time period 136 - 151 seconds.

Random error in the X and Y acceleration was 0.04 m/sec^2 or less. Random error in the Z acceleration components is as high as 0.1 m/sec^2 near the end of power flight. Bias errors in the acceleration components have not been determined.

The trajectory from 160 to 292 sec was a computed ballistic trajectory and therefore has no random error in position, velocity, or acceleration components. The quality of the position components and the initial velocity components is reflected in the comparisons made above.

4.0 (U) ACTUAL AND NOMINAL TRAJECTORY

4.1 (U) Powered Flight

A composite listing of significant events, both actual and nominal, such as first motion, Mach 1, and water release is given in Table II. Maximum values for dynamic pressure, longitudinal acceleration, and earth-fixed velocity are also given. The nominal trajectory is given in Reference 3.

The distance the vehicle traveled toward the umbilical tower, used for the first time on SA-3, versus altitude is shown in Figure 10. The vehicle attained an altitude higher than the umbilical tower at 10 seconds range time.

Actual and nominal altitude, range, and cross range (Z_e) are shown in Figure 11. The actual altitude and range were slightly less than nominal due to lower accelerations (see Figure 14). The actual cross range displacement (Z_e) was 0.41 km left of nominal at IECO. About

0.255 km of this deviation was due to the difference in alignment of the platform and vehicle (see page 4). The remaining difference (0.155 km) is due to winds (0.110 km) and other small effects (0.045 km).

Actual and nominal Mach number and dynamic pressure are shown in Figure 13. The actual dynamic pressure was slightly less (0.006 kg/cm^2) than nominal due to a lower velocity.

4.2 (U) Cutoff

A comparison of actual and nominal parameters at both inboard and outboard cutoff is shown in Table III. At IECO the actual altitude was 1.4 km higher, range was 1.8 km longer, and velocity was 18.4 m/s greater than nominal. At OECO the actual altitude was 1.1 km higher, range was 1.8 km longer, and velocity was 11.9 m/s greater than nominal. The time interval between the two cutoff times was 7.43 sec for the actual, and 7.61 sec for the nominal. The acceleration level of both actual and nominal was about 21 m/sec^2 . Since the actual burning time was 0.2 sec less than nominal, the velocity comparison would be expected to change by about 4 m/sec between IECO and OECO. This would mean that the expected difference between actual and nominal velocity at OECO would be 14.4 m/s. Figure 14 indicates that the acceleration level during outboard engine operation is less than nominal, resulting in a velocity difference of only 11.9 m/s at OECO.

Thrust Decay

The velocity gain during actual outboard engine thrust decay was 7.9 m/s and the nominal velocity gain was 7.6 m/s. A comparison of the two has no significance since LOX depletion occurred. In addition, the time of actual OECO was obtained from a commutated telemetry trace which may be in error as much as ± 83 milliseconds. This time error is equivalent to a ± 1.7 m/s uncertainty in velocity gain.

4.3 (U) Retrorockets

SA-3 was the first Saturn vehicle to use retrorockets. The measured longitudinal acceleration (F7-13) during retrorocket operation is shown in the lower part of Figure 14. The velocity lost due to retrorocket operation was about 9 m/s or approximately the velocity loss predicted. Deviating from the Block II separation sequence, this velocity loss applies to the entire (non-separated) SA-3 vehicle.

4.4 (U) Water Release (Destruct)

Water release occurred at 292.0 sec range time. The vehicle was 0.45 km higher and 3.76 km further in range than was expected.

TABLE IA

(U) External Data Source

Data Source	Interval
"Close-in" Fixed Camera (light)	.036 - 5.573 sec 6.774 - 10.910 sec
"Regular" Fixed Camera (nose)	.338 - 27.237 sec
Theodolite	20.0 - 133.6 sec
Azusa	18.0 - 168.4 sec 211.3 - 254.4 sec
UDOP - MSFC	22.0 - 120.0 sec
FPS-16 Radar 1.16 (Cape)	Auto Beacon 0.0 - 92.0 sec Auto Beacon 105.1 - 195.7 sec Auto Beacon 202.0 - 235.9 sec Auto Skin 244.4 - 312.8 sec
FPS-16 Radar 0.16 (PAFB)	Auto Beacon 22.0 - 132.4 sec Auto Skin 186.0 - 323.0 sec Auto Skin 368.0 - 456.0 sec
FPS-16 Radar 3.16 (GBI)	Auto Beacon 84.0 - 191.0 sec Auto Skin 191.1 - 228.0 sec Auto Beacon 239.0 - 260.0 sec Auto Beacon 286.0 - 289.0 sec Auto Skin 289.1 - 408.0 sec Auto Skin 432.0 - 471.0 sec
FPS-16 Radar 42.16 (Carter Cay)	Auto Beacon 90.0 - 190.6 sec Auto Skin 202.0 - 278.6 sec Auto Skin 325.0 - 352.0 sec

TABLE IB

(U) Supporting Flight Data

Tilt Program	Powered Flight
Guidance Outputs (Meas: I1-15, I2-15, I3-15 and I4-12)	0.0 - 158.4 sec
Longitudinal Acceleration Meas: F5-13 F6-13 F7-13	0.0 - 154.0 sec 0.0 - 160.0 sec Decay - 160.0 sec
Cutoff Signals	
Observed Meteorological (to 33.4 km Alt.)	0.0 - 114.5 sec
Chamber Pressure Meas: D1-1, D1-2, D1-3, D1-5, D1-6, D1-7, D1-8, D1-4	0.0 - End Outboard Decay 0.0 - 73.6 sec
$\Delta\varphi_p$, H1-15	0.0 - 158.4 sec
φ_y , H2-15	0.0 - 158.4 sec
Separation, Anvil vs Vehicle Support Block: YL-1, YL-2	-4.0 - 1.0 sec

TABLE II
(U) Significant Events

Event	Parameter	Actual	Nominal	Act - Nom
First Motion	Range Time (sec)	.10	.10	
	Longitudinal Acceleration (m/sec^2)	11.36	11.27	.09
Mach 1	Range Time (sec)	68.10	68.03	.07
	Altitude (km)	8.27	8.04	.23
Maximum Dynamic Pressure	Range Time (sec)	78.60	78.28	.32
	Dynamic Pressure (kg/cm^2)	.2863	.2926	-.0063
Maximum Longitudinal Acceleration	Altitude (km)	12.00	11.65	.35
	Range Time (sec)	141.80	140.44	1.36
Maximum Earth-fixed Velocity	Longitudinal Acceleration (m/sec^2)	41.12	41.60	-.48
	Range Time (sec)	149.50	148.25	1.25
Water Release	Earth-fixed Velocity (m/sec^2)	1811.8	1800.0	11.8
	Range Time (sec)	292.0	292.0	
	Altitude (km)	167.22	166.77	.45
	Range (km)	211.41	207.65	3.76
	Elevation Angle from Pad (deg)	37.03	37.46	-.43

TABLE III

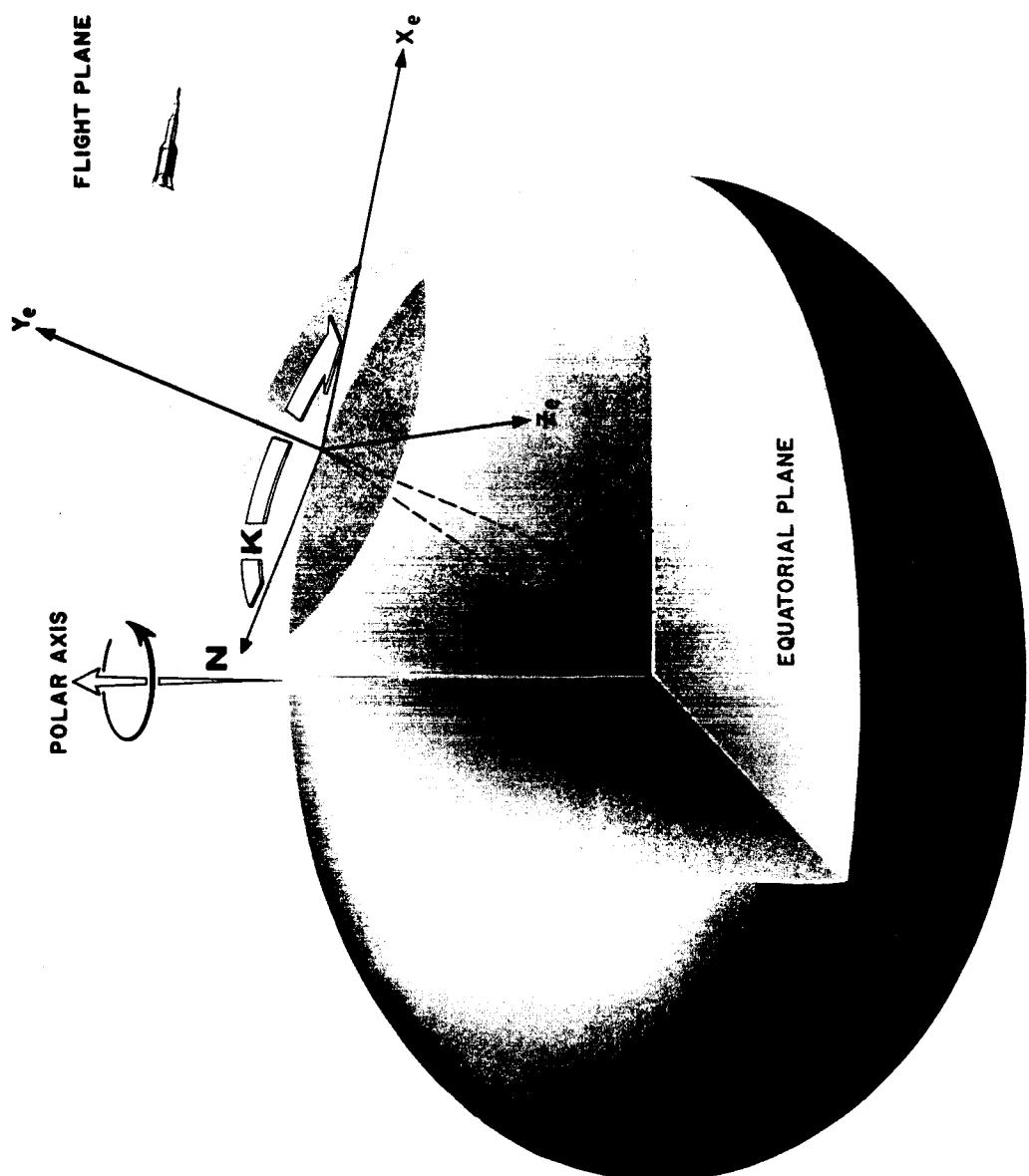
(U) Cutoff Conditions

Parameter	IECO			OECO		
	Actual	Nominal	Act-Nom	Actual	Nominal	Act-Nom
Range Time (sec)	141.66	140.34	1.32	149.09	147.95	1.14
Range (km)	32.42	30.64	1.78	41.13	39.36	1.77
Altitude (km)	61.46	60.10	1.36	71.11	70.00	1.11
Cross Range (Z_e) (km)	-0.13	0.28	-0.41	-0.10	0.36	-0.46
Earth-fixed Velocity (m/sec)	1700.6	1682.2	18.4	1808.8	1796.9	11.9
Longitudinal Acceleration (m/sec ²)	41.05	41.53	-0.48	20.99	21.74	-0.75
Velocity Vector Elevation (deg)	48.37	49.16	-0.79	46.84	47.55	-0.71
Velocity Vector Azimuth (deg)	100.09	100.48	-0.39	100.18	100.56	-0.38

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EARTH - FIXED COORDINATE SYSTEM

FIGURE 1



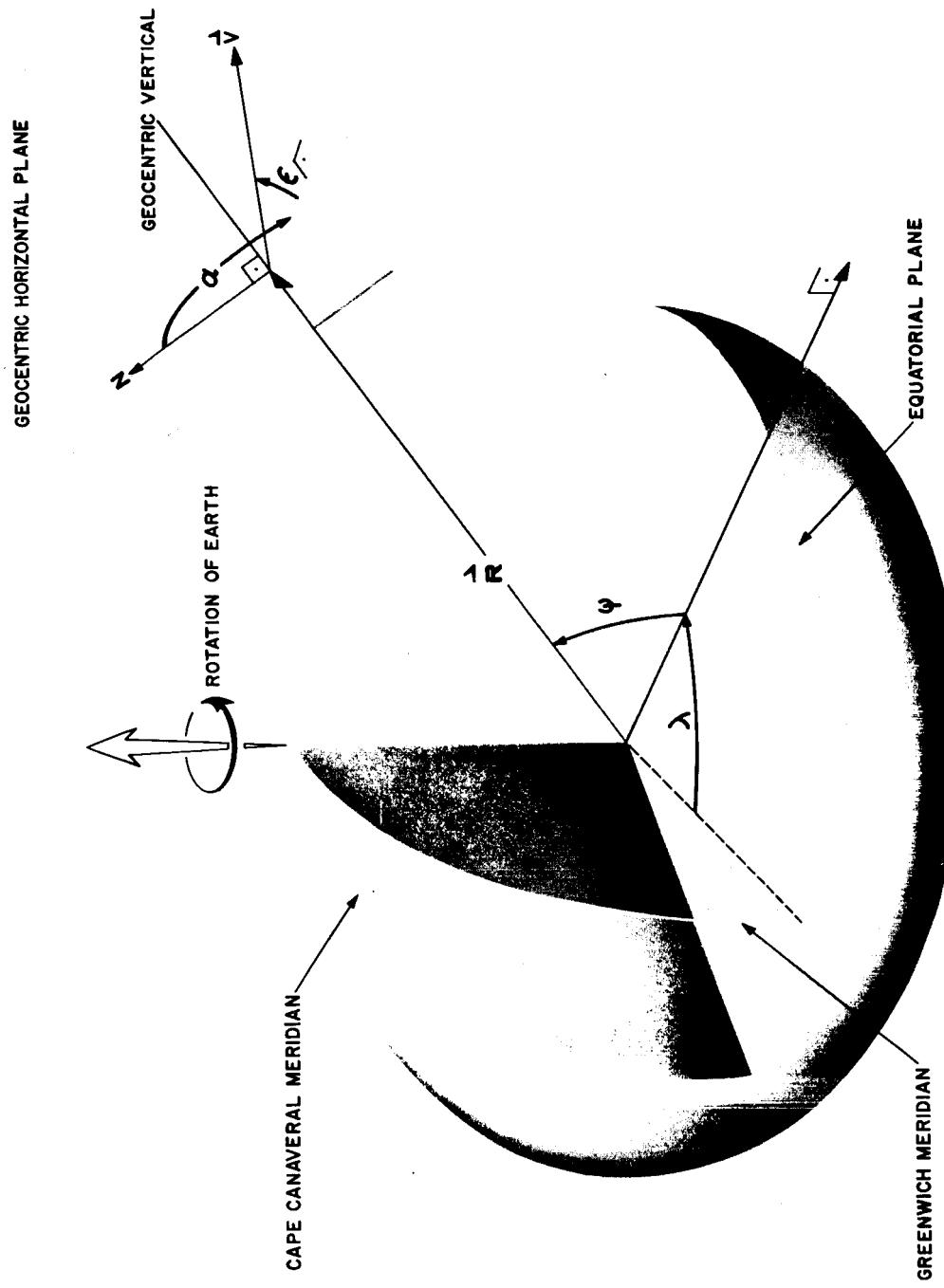


FIGURE 2 GEOGRAPHIC COORDINATE SYSTEM

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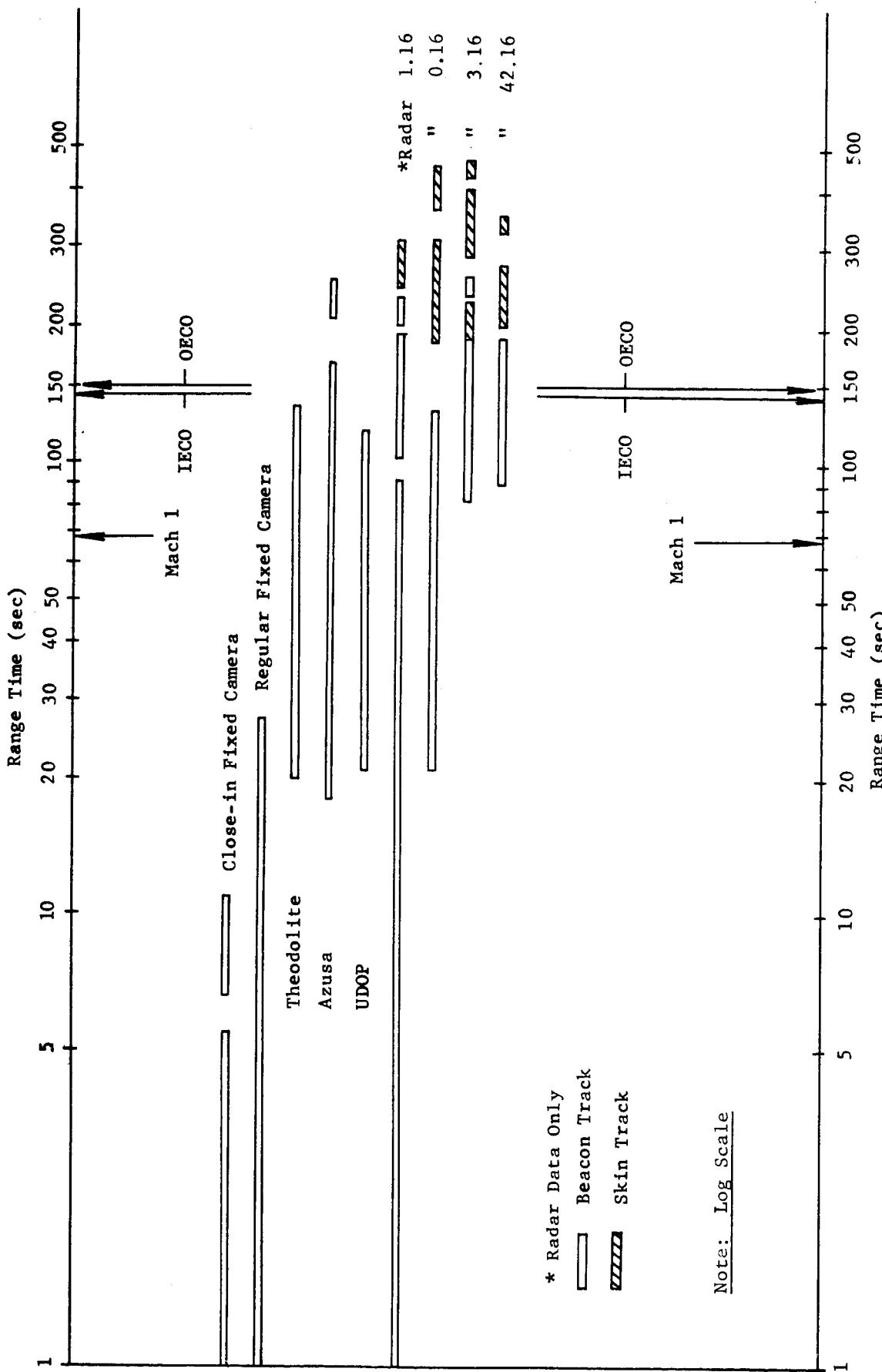


FIGURE 3 EXTERNAL TRACKING DATA

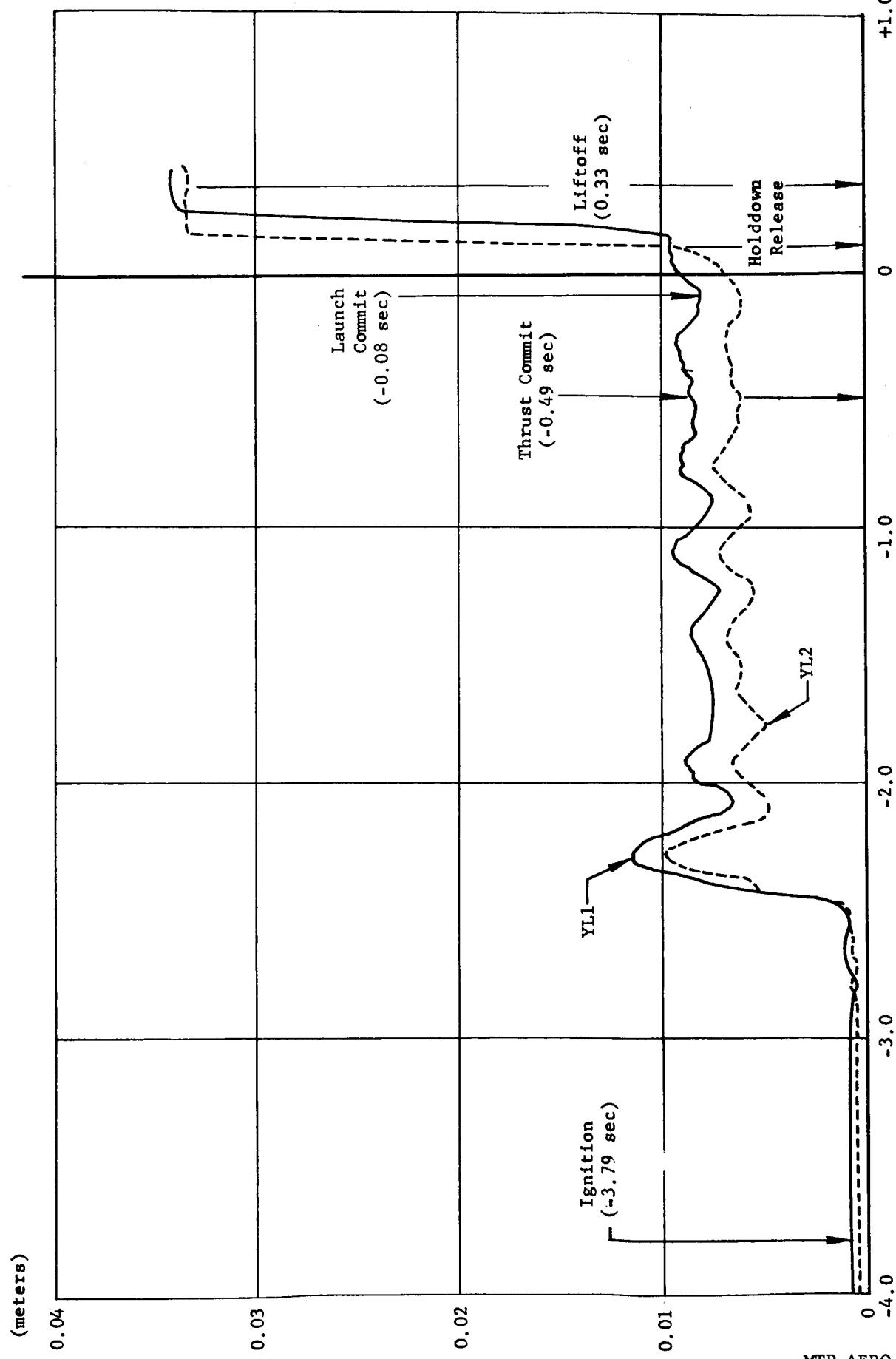


FIGURE 4
SEPARATION ANVIL VS VEHICLE SUPPORT BLOCK

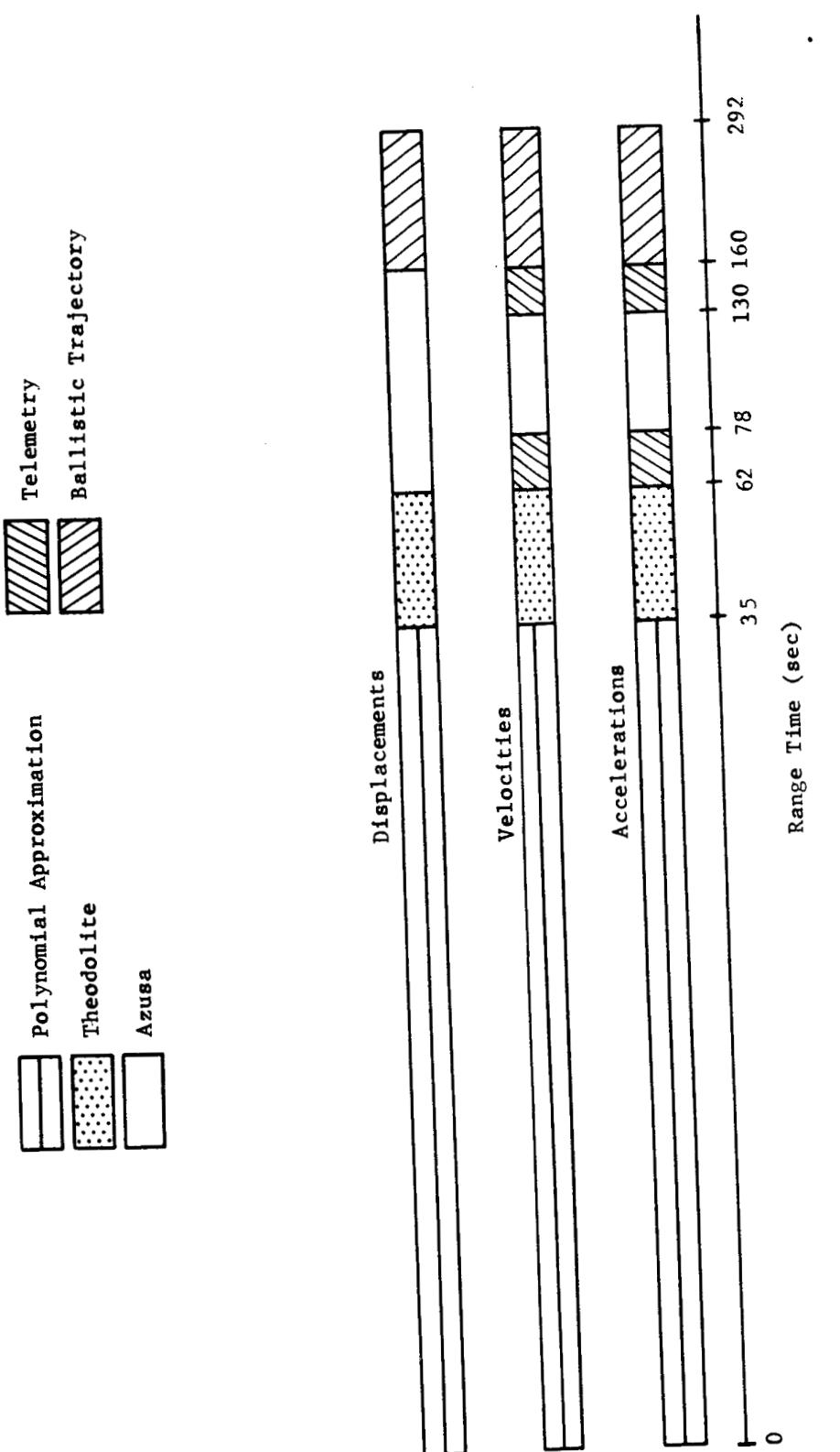


FIGURE 5 DATA UTILIZATION

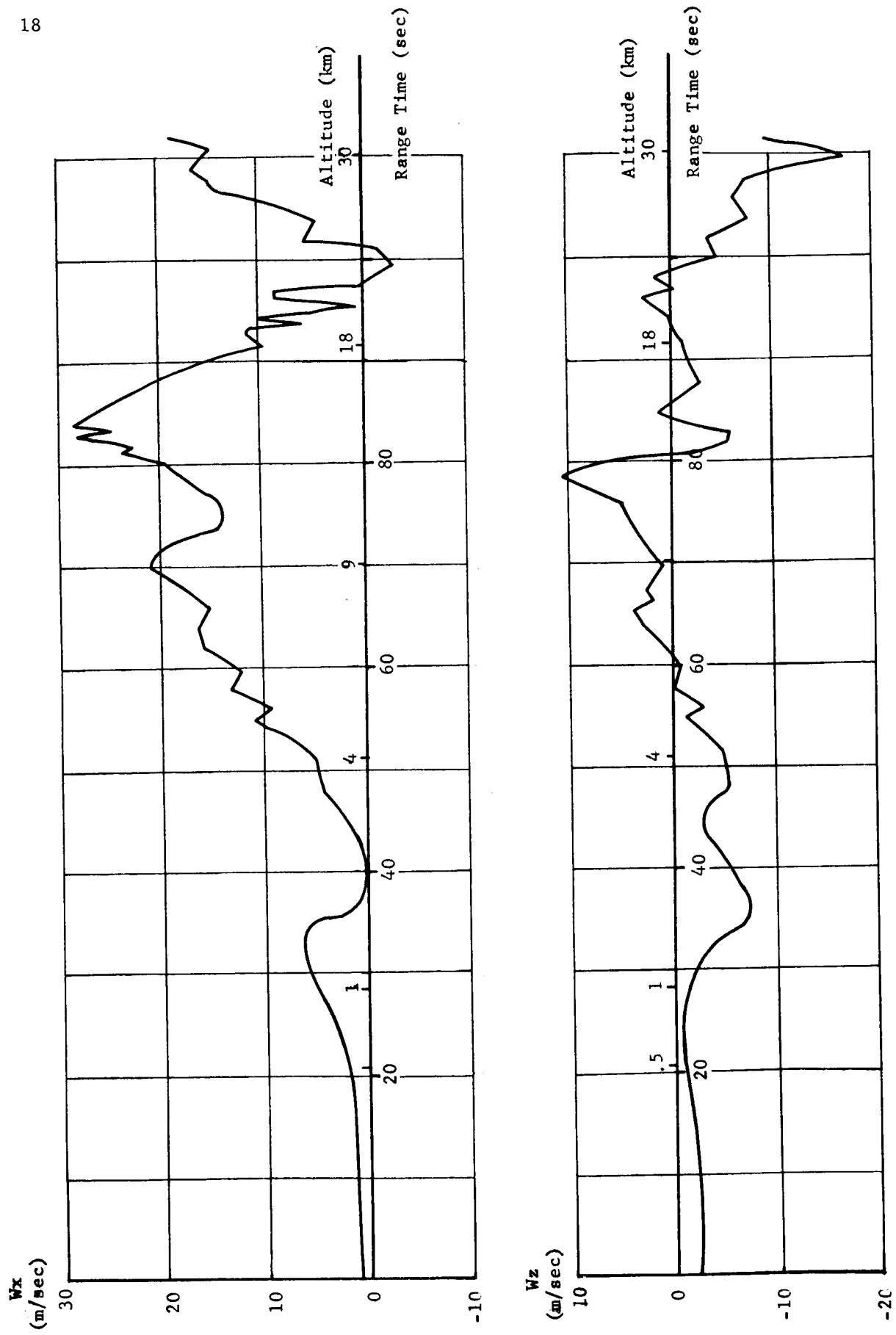


FIGURE 6 WIND COMPONENTS

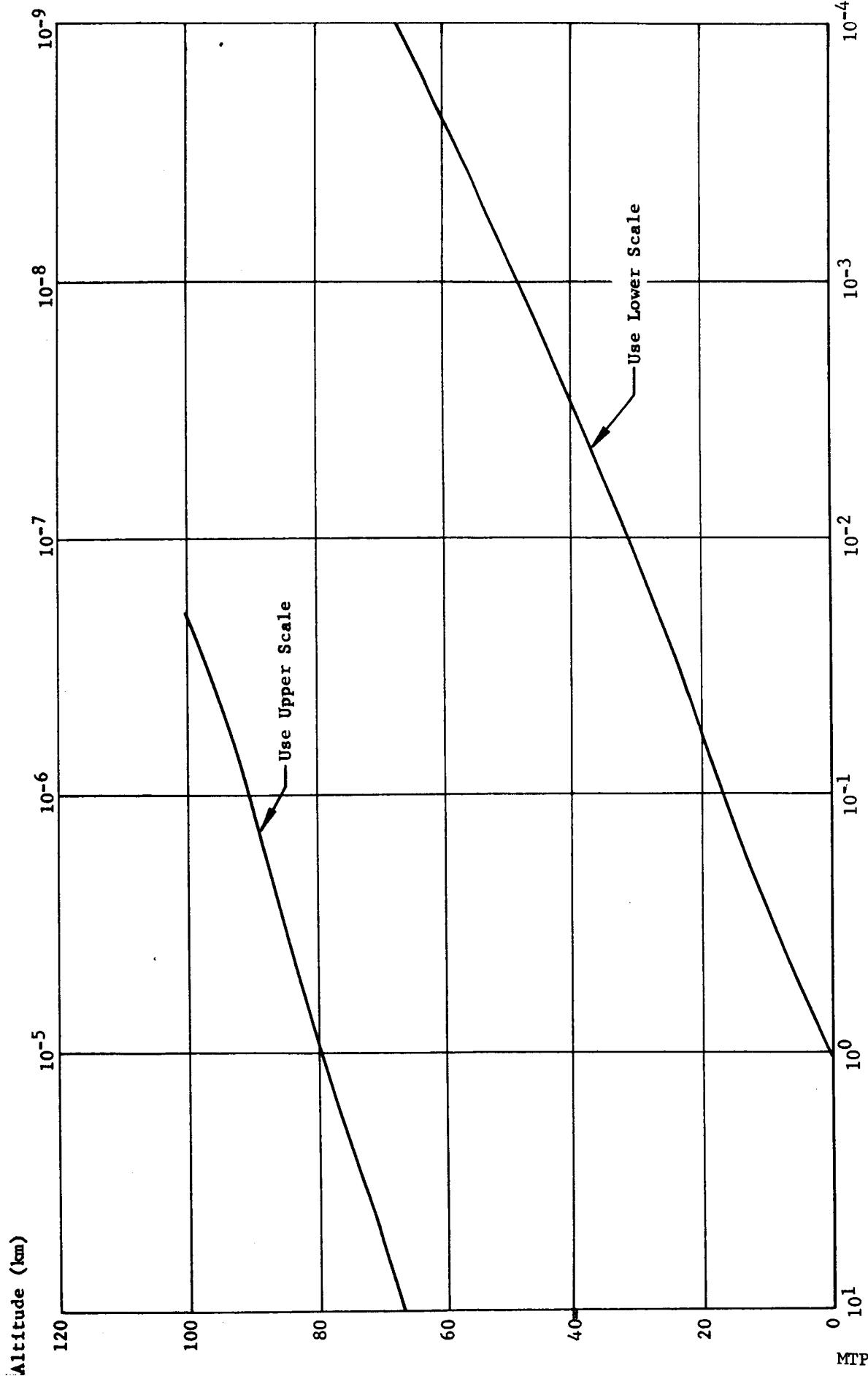


FIGURE 7 AMBIENT PRESSURE (kg/cm^2)

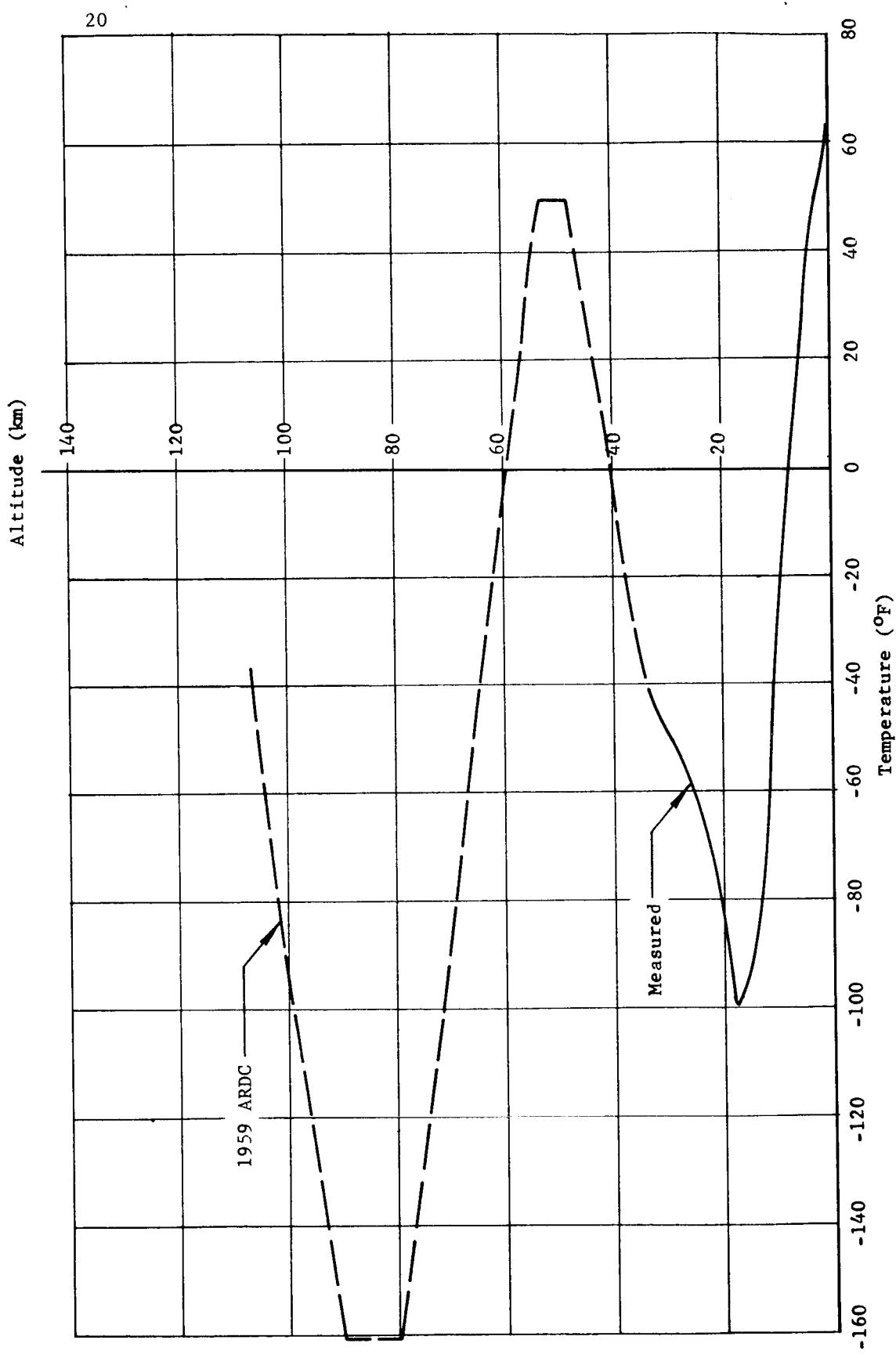


FIGURE 8 TEMPERATURE PROFILE

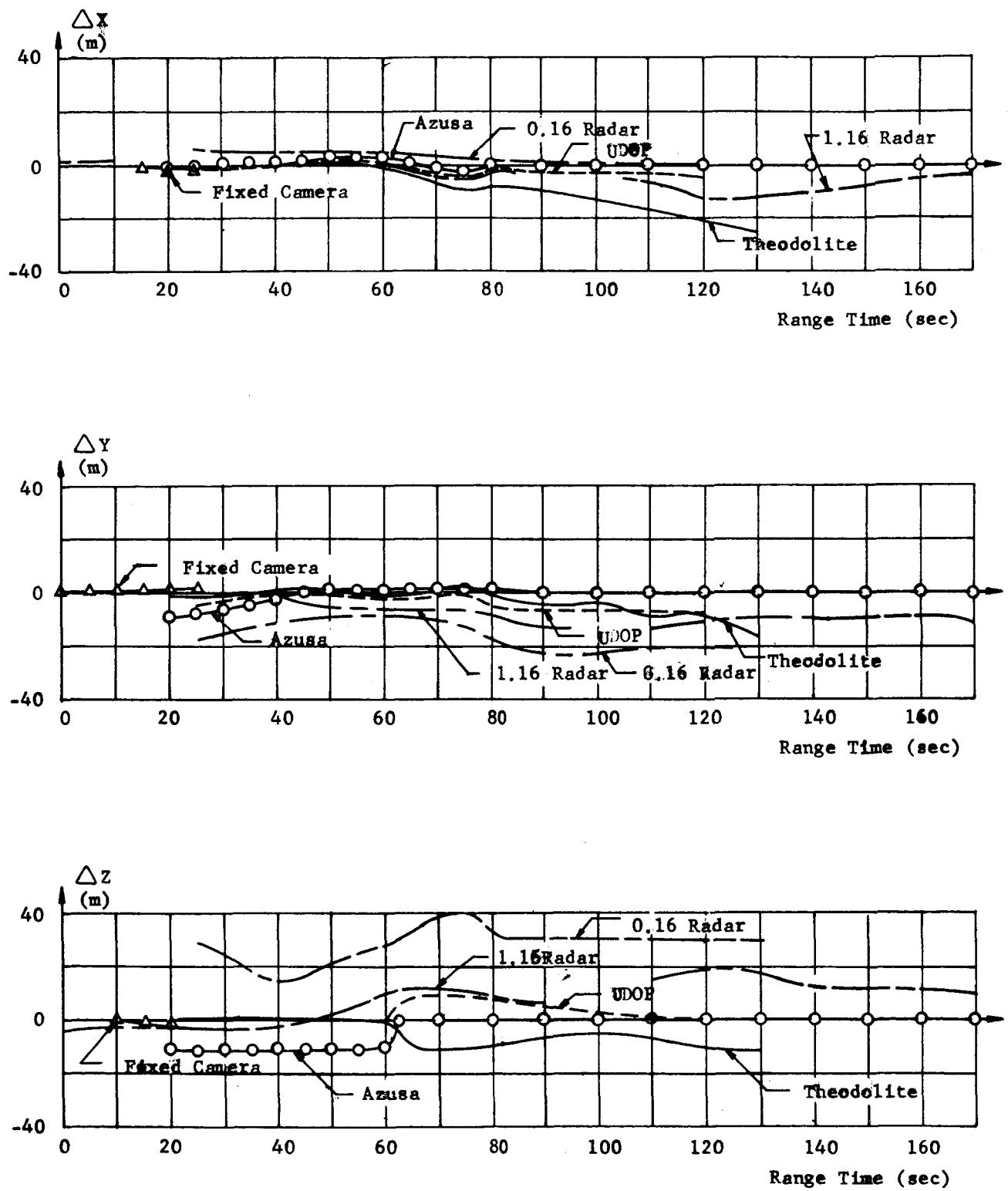


FIGURE 9 TRACKING COMPARISONS (TRACKING-REFERENCE)

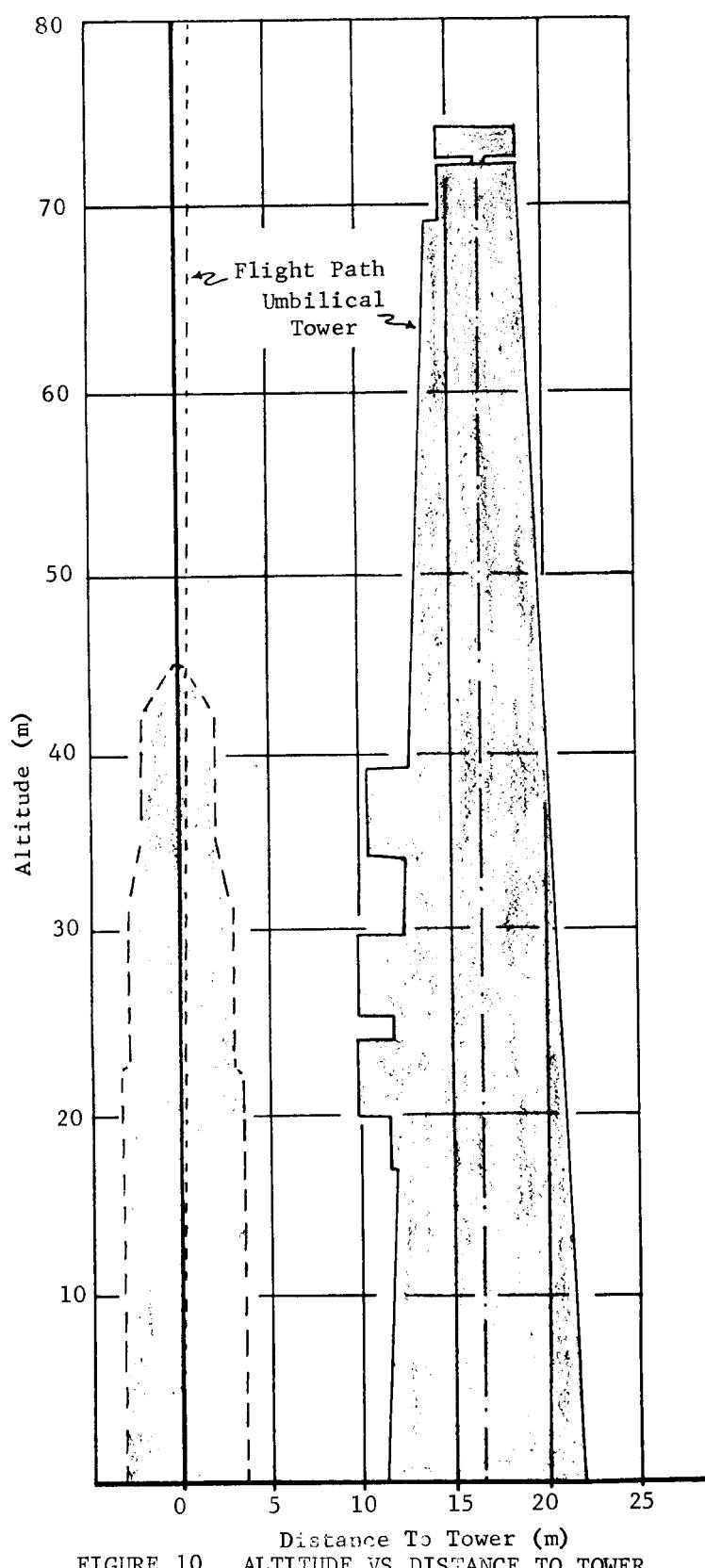


FIGURE 10 ALTITUDE VS DISTANCE TO TOWER

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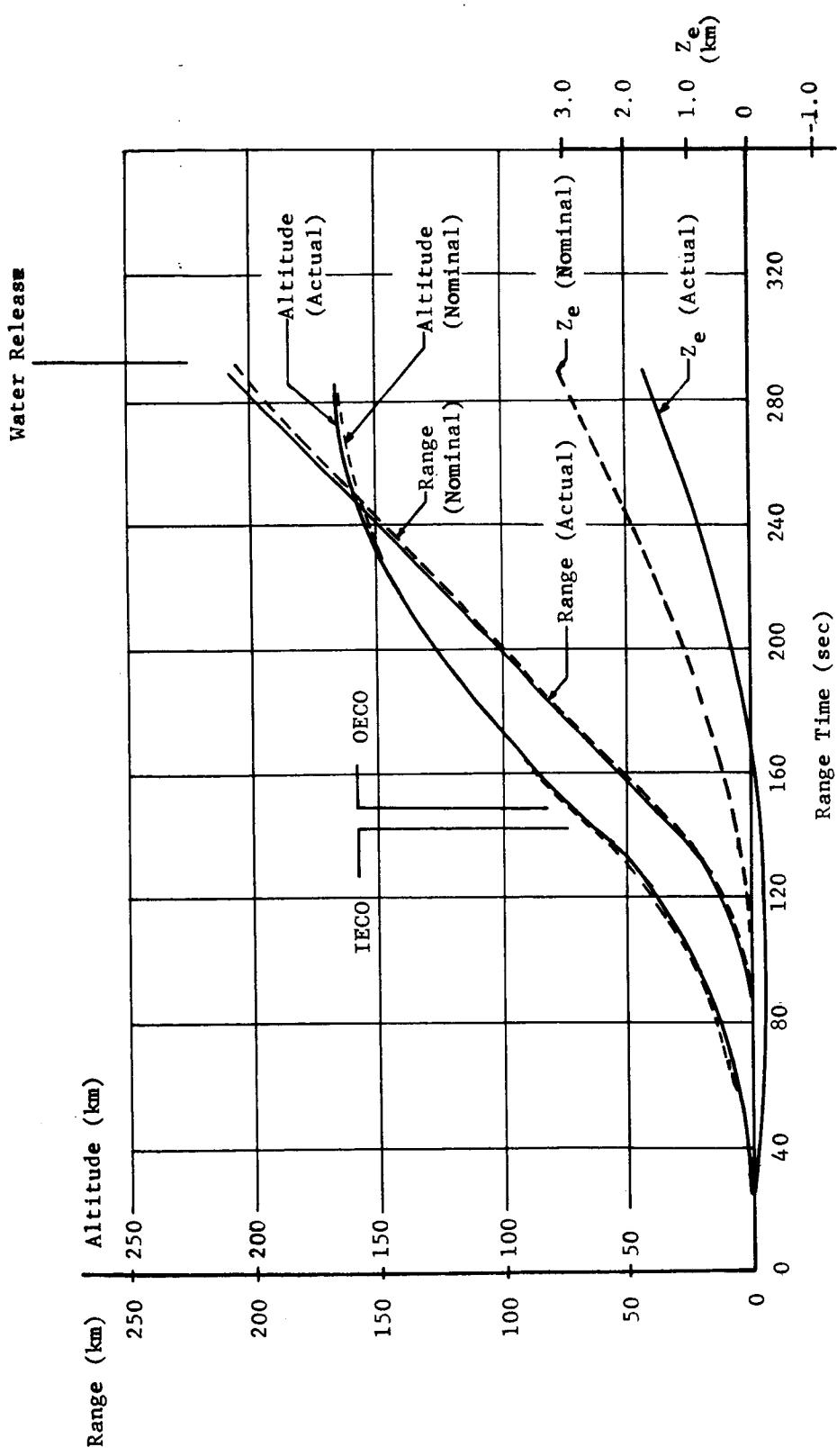


FIGURE 11 TRAJECTORY

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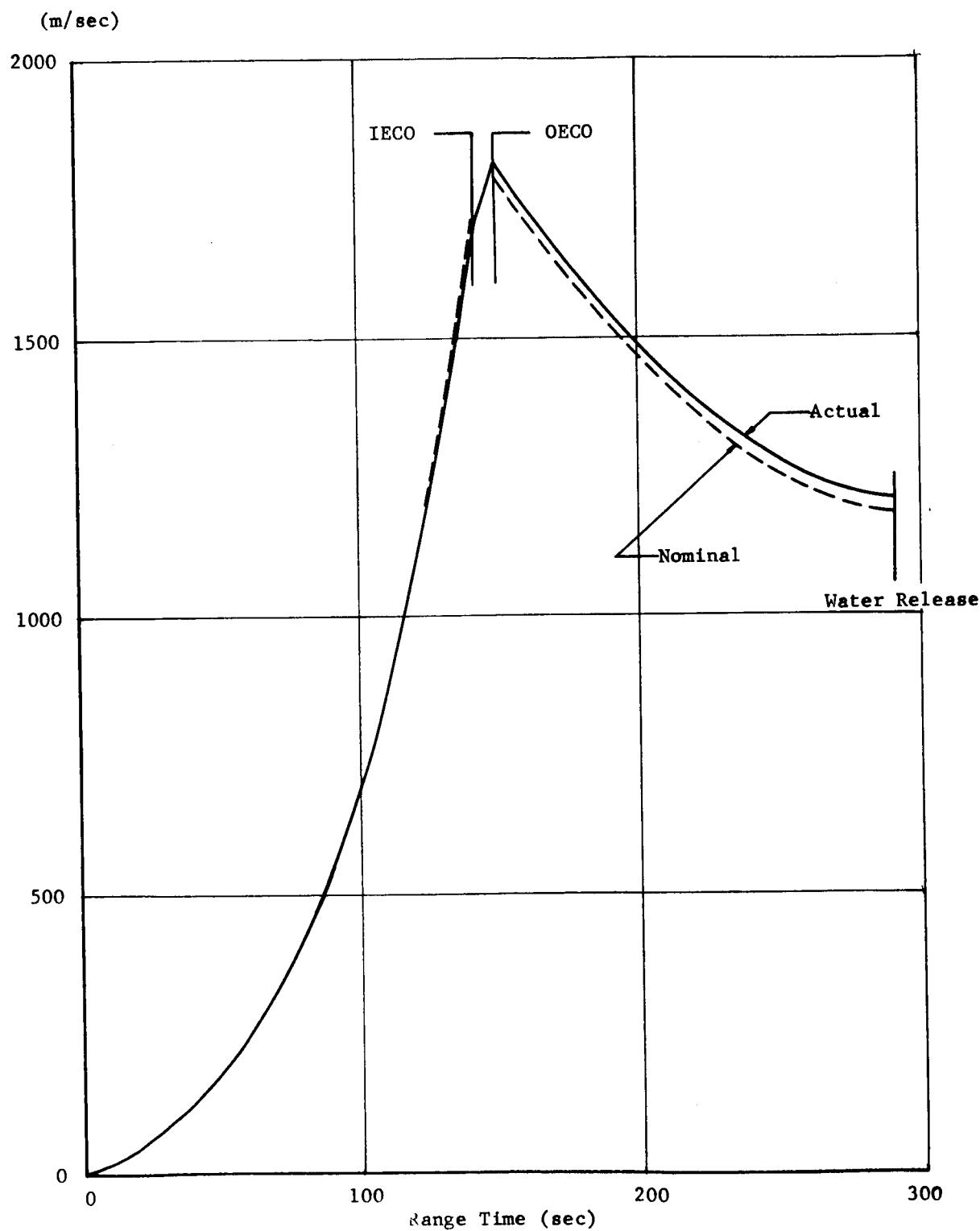


FIGURE 12 EARTH-FIXED VELOCITY

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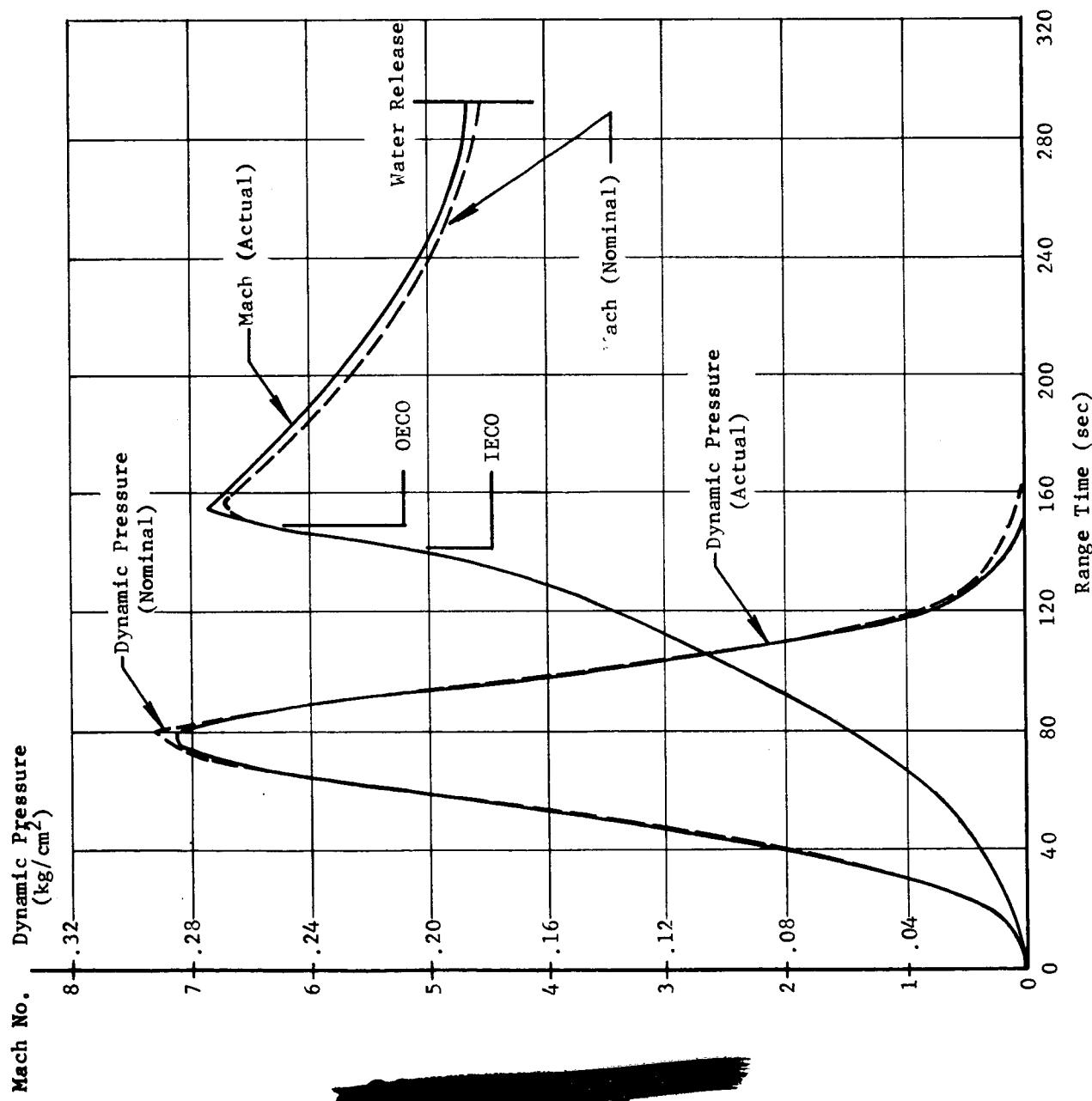


FIGURE 13 DYNAMIC PRESSURE AND MACH NUMBER

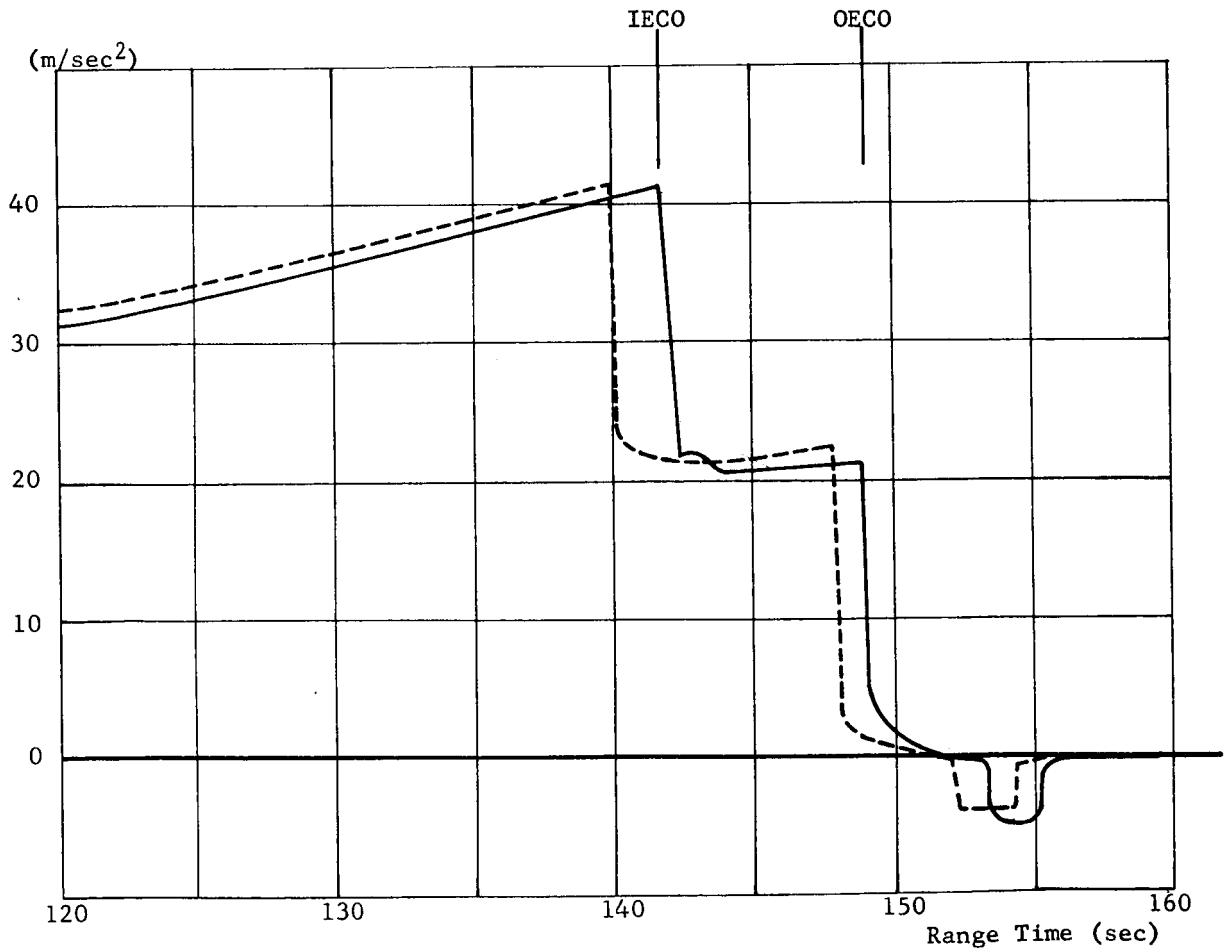
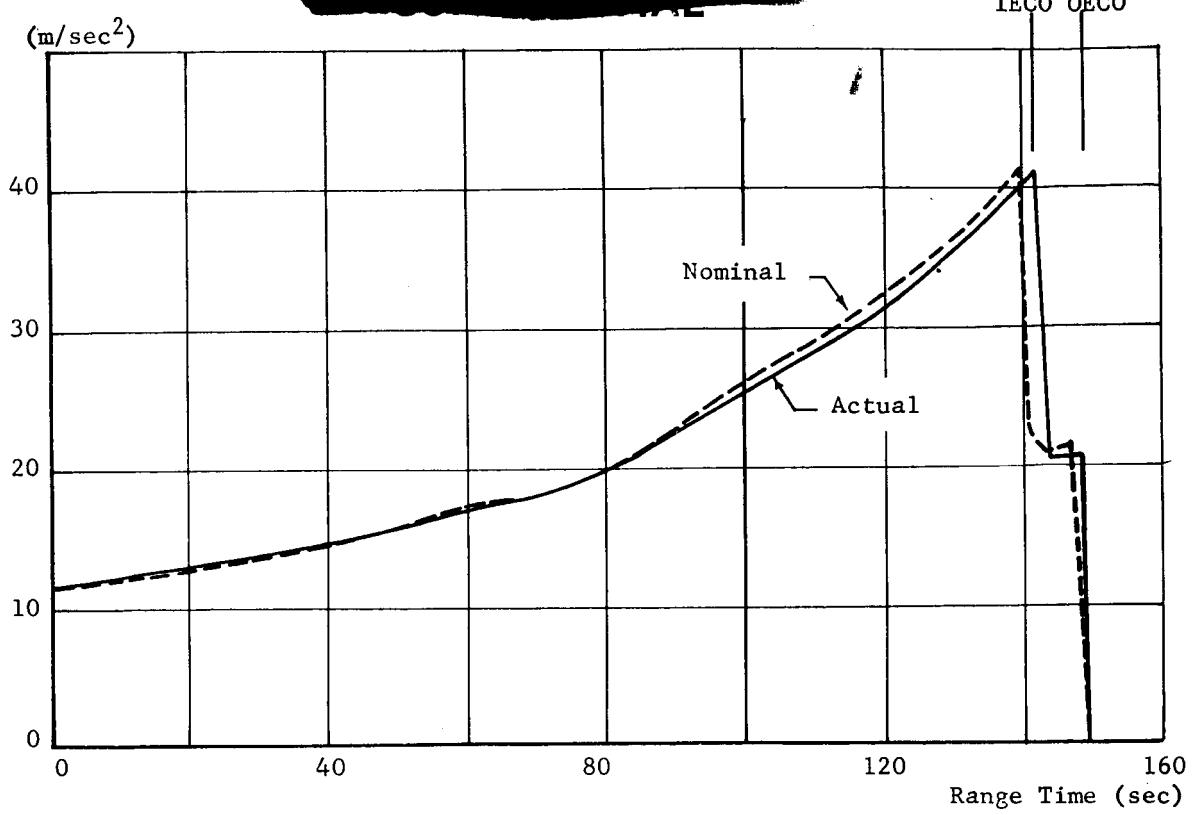


FIGURE 14 LONGITUDINAL ACCELERATION (POWERED FLIGHT)

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APPENDIX

Range Definition

Range is, to a high degree of approximation, the shortest distance between the launch site and the subvehicle point. The earth model used for all the calculations except range was the Clarke Ellipsoid of 1866. The range, given in this report, was computed by replacing the ellipsoid with a sphere of an appropriate radius. The equation used to compute this range is given below:

$$\text{Range} = \frac{1}{2} (r_o + r_e) R_a \text{ (radians)}$$

where: r_o = radius of the earth at the launch site

r_e = radius of the earth at the subvehicle point

R_a = angle between the radii

REFERENCES

1. "Data, Instrumentation and Operational Requirements for Saturn Vehicles SA-3 and SA-4," Letter dated July 30, 1962 to M-LOD-P Major Petrone, from Chairman, Saturn Flight Evaluation Working Group, M-AERO-F
2. MPR-SAT-63-1, Saturn SA-3 Flight Evaluation by Saturn Flight Evaluation Working Group dated Jan. 8, 1963
3. Memorandum "Saturn C-1 Vehicle SA-3 Test Flight: Trajectory Corridor To Be Flown By SA-3 (U), dated November 2, 1962 from Chief, Space Projects Section 1, M-AERO-P

TABLE IV

TIME SEC	EARTH-FIXED-POSITION			EARTH-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
FIRST MOTION						
0.100	0	31	0	0.0	0.0	-0.0
LIFT OFF SIGNAL						
0.330	0	31	-0	0.0	0.4	-0.0
0.5	0	31	-0	0.0	0.6	-0.0
1.0	0	31	-0	0.0	1.5	-0.1
1.5	0	32	-0	0.0	2.3	-0.1
2.0	0	33	-0	-0.0	3.2	-0.1
2.5	0	35	-0	-0.0	4.1	-0.1
3.0	-0	38	-0	-0.0	5.1	-0.1
3.5	-0	40	-0	-0.0	6.0	-0.1
4.0	-0	44	-0	-0.0	7.0	-0.0
4.5	-0	47	-0	-0.0	8.0	-0.0
5.0	-0	52	-0	-0.0	9.0	-0.0
5.5	-0	56	-0	-0.0	10.1	-0.1
6.0	-0	62	-0	-0.0	11.1	-0.1
6.5	-0	68	-0	-0.0	12.2	-0.1
7.0	-0	74	-0	-0.0	13.3	-0.1
7.5	-0	81	-0	-0.0	14.4	-0.1
8.0	-0	88	-1	-0.0	15.5	-0.2
8.5	-0	96	-1	-0.0	16.7	-0.2
9.0	-0	105	-1	-0.0	17.9	-0.2
9.5	-0	114	-1	-0.0	19.0	-0.2
10.0	-0	124	-1	-0.0	20.3	-0.3
10.5	-0	134	-1	-0.0	21.5	-0.3
11.0	-0	146	-1	-0.0	22.8	-0.3
11.5	-0	157	-1	-0.0	24.0	-0.4
12.0	-0	170	-2	0.0	25.3	-0.4
12.5	-0	183	-2	0.0	26.6	-0.4
13.0	-0	196	-2	0.0	28.0	-0.4
13.5	-0	211	-2	-0.0	29.3	-0.4
14.0	-0	226	-2	-0.0	30.7	-0.4
14.5	-0	241	-3	-0.0	32.1	-0.4
15.0	-0	258	-3	-0.0	33.5	-0.5
15.5	-0	275	-3	-0.0	35.0	-0.5
16.0	-0	293	-3	-0.0	36.5	-0.5
16.5	-0	311	-4	-0.0	37.9	-0.5
17.0	-0	331	-4	-0.0	39.4	-0.5

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TABLE IV

TIME SEC	EARTH-FIXED-POSITION			EARTH-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
17.5	-0	351	-4	-0.0	41.0	-0.5
18.0	-0	372	-4	-0.0	42.5	-0.5
18.5	-0	393	-4	-0.0	44.1	-0.5
19.0	-0	416	-5	-0.0	45.7	-0.5
19.5	-0	439	-5	0.0	47.3	-0.5
20.0	-0	463	-5	0.0	48.9	-0.5
20.5	-0	488	-5	0.0	50.5	-0.5
21.0	-0	513	-6	0.0	52.2	-0.5
21.5	-0	540	-6	0.0	53.8	-0.5
22.0	-0	567	-6	0.1	55.5	-0.6
22.5	-0	595	-7	0.1	57.2	-0.6
23.0	-0	625	-7	0.1	59.0	-0.6
23.5	0	654	-7	0.1	60.7	-0.7
24.0	0	685	-7	0.2	62.5	-0.7
24.5	0	717	-8	0.2	64.3	-0.8
25.0	0	749	-8	0.3	66.1	-0.8
25.5	0	783	-9	0.3	67.9	-0.9
26.0	1	817	-9	0.4	69.7	-0.9
26.5	1	853	-10	0.4	71.6	-1.0
27.0	1	889	-10	0.5	73.5	-1.0
27.5	1	926	-11	0.6	75.4	-1.1
28.0	2	964	-11	0.6	77.3	-1.1
28.5	2	1004	-12	0.7	79.3	-1.2
29.0	2	1044	-12	0.8	81.3	-1.2
29.5	3	1085	-13	0.9	83.3	-1.2
30.0	3	1127	-14	0.9	85.3	-1.2
30.5	4	1170	-14	1.0	87.4	-1.2
31.0	4	1214	-15	1.1	89.5	-1.2
31.5	5	1260	-15	1.2	91.6	-1.2
32.0	5	1306	-16	1.3	93.8	-1.2
32.5	6	1354	-17	1.4	95.9	-1.2
33.0	7	1402	-17	1.5	98.1	-1.2
33.5	8	1452	-18	1.7	100.4	-1.2
34.0	9	1502	-18	1.8	102.6	-1.1
34.5	9	1554	-19	1.9	104.9	-1.1
35.0	10	1607	-20	2.0	107.2	-1.1
35.5	11	1662	-20	2.2	109.4	-1.5
36.0	13	1717	-21	2.3	111.7	-1.6
36.5	14	1773	-22	2.4	114.0	-1.6
37.0	15	1831	-23	2.5	116.4	-1.7

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TABLE IV

TIME SEC	EARTH-FIXED-POSITION			EARTH-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
37.5	16	1890	-24	2.7	118.7	-1.8
38.0	18	1950	-25	2.8	121.1	-1.8
38.5	19	2011	-26	2.9	123.6	-1.9
39.0	21	2073	-26	3.1	126.0	-2.0
39.5	22	2137	-27	3.2	128.5	-2.0
40.0	23	2201	-29	3.4	131.0	-2.0
40.5	25	2267	-30	3.6	133.5	-2.1
41.0	26	2335	-31	3.8	136.1	-2.1
41.5	28	2404	-32	4.1	138.7	-2.1
42.0	30	2474	-33	4.3	141.3	-2.1
42.5	33	2545	-34	4.6	144.0	-2.2
43.0	35	2618	-35	4.9	146.6	-2.2
43.5	38	2692	-36	5.2	149.3	-2.3
44.0	40	2767	-37	5.5	152.0	-2.3
44.5	43	2844	-38	5.8	154.8	-2.4
45.0	46	2922	-40	6.2	157.5	-2.4
45.5	49	3001	-41	6.5	160.3	-2.5
46.0	53	3082	-42	6.9	163.2	-2.5
46.5	56	3164	-43	7.3	166.0	-2.5
47.0	60	3248	-44	7.8	168.9	-2.6
47.5	64	3333	-46	8.2	171.8	-2.6
48.0	68	3420	-47	8.7	174.7	-2.7
48.5	73	3508	-48	9.2	177.7	-2.7
49.0	77	3597	-50	9.8	180.7	-2.7
49.5	82	3689	-51	10.3	183.7	-2.8
50.0	88	3781	-53	10.9	186.8	-2.8
50.5	93	3875	-54	11.5	189.8	-2.8
51.0	99	3971	-55	12.2	193.0	-2.9
51.5	106	4068	-57	12.9	196.1	-2.9
52.0	112	4167	-58	13.6	199.3	-2.9
52.5	119	4268	-60	14.3	202.4	-3.0
53.0	127	4370	-61	15.1	205.7	-3.0
53.5	134	4473	-63	15.9	208.9	-3.0
54.0	142	4579	-64	16.7	212.2	-3.0
54.5	151	4686	-66	17.5	215.5	-3.0
55.0	160	4794	-67	18.4	218.8	-3.0
55.5	169	4904	-69	19.4	222.2	-3.0
56.0	179	5016	-70	20.3	225.6	-3.0
56.5	190	5130	-72	21.3	229.0	-3.0
57.0	201	5245	-73	22.3	232.5	-3.0

TABLE IV

TIME SEC	EARTH-FIXED-POSITION			EARTH-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
57.5	212	5362	-75	23.4	235.9	-3.0
58.0	224	5481	-76	24.5	239.4	-3.0
58.5	237	5602	-78	25.6	243.0	-3.0
59.0	250	5724	-79	26.8	246.5	-3.0
59.5	263	5848	-81	28.0	250.1	-2.9
60.0	278	5974	-82	29.3	253.7	-2.9
60.5	293	6102	-84	30.6	257.3	-2.9
61.0	308	6231	-85	31.9	260.9	-2.9
61.5	325	6363	-87	33.3	264.5	-2.8
62.0	345	6497	-98	34.8	268.1	-2.9
62.5	363	6632	-100	36.3	271.7	-2.9
63.0	381	6769	-101	37.8	275.4	-2.8
63.5	401	6907	-103	39.4	279.1	-2.8
64.0	421	7048	-104	41.0	282.9	-2.7
64.5	442	7191	-105	42.6	286.6	-2.7
65.0	463	7335	-106	44.3	290.4	-2.6
65.5	485	7482	-107	46.0	294.1	-2.6
66.0	509	7630	-109	47.7	297.9	-2.5
66.5	533	7780	-110	49.5	301.7	-2.5
67.0	558	7932	-111	51.4	305.5	-2.4
67.5	584	8086	-112	53.3	309.3	-2.3
68.0	611	8242	-113	55.2	313.2	-2.3
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MACH 1						
68.100	616	8273	-113	55.6	313.9	-2.2
68.5	639	8399	-114	57.2	317.0	-2.2
69.0	668	8559	-115	59.3	320.8	-2.2
69.5	698	8721	-116	61.4	324.5	-2.1
70.0	729	8884	-117	63.5	328.3	-2.1
70.5	761	9049	-118	65.6	332.1	-2.1
71.0	794	9217	-119	67.8	335.8	-2.1
71.5	828	9386	-120	70.0	339.6	-2.1
72.0	864	9557	-121	72.3	343.5	-2.1
72.5	900	9730	-122	74.5	347.3	-2.0
73.0	938	9905	-123	76.8	351.2	-2.0
73.5	977	10081	-124	79.2	355.2	-1.9
74.0	1017	10260	-125	81.5	359.2	-1.9
74.5	1058	10441	-126	83.9	363.2	-1.8
75.0	1100	10624	-127	86.4	367.3	-1.8
75.5	1144	10809	-127	89.0	371.4	-1.7

TABLE IV

TIME SEC	EARTH-FIXED-POSITION			EARTH-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
76.0	1189	10996	-128	91.5	375.6	-1.6
76.5	1236	11185	-129	94.2	379.8	-1.5
77.0	1283	11376	-130	96.9	384.1	-1.5
77.5	1333	11569	-130	99.7	388.4	-1.4
78.0	1383	11764	-131	102.5	392.7	-1.3
78.5	1435	11962	-132	105.4	397.1	-1.2
MAXIMUM DYNAMIC PRESSURE						
78.600	1446	12001	-132	106.0	397.9	-1.2
79.0	1489	12161	-132	108.4	401.4	-1.1
79.5	1543	12363	-133	111.5	405.8	-1.1
80.0	1600	12567	-133	114.6	410.2	-1.0
80.5	1658	12773	-134	117.8	414.8	-1.0
81.0	1718	12982	-134	121.0	419.3	-1.0
81.5	1779	13193	-135	124.3	423.9	-1.0
82.0	1842	13406	-135	127.7	428.6	-1.1
82.5	1907	13621	-136	131.1	433.3	-1.2
83.0	1973	13839	-136	134.6	438.0	-1.2
83.5	2041	14059	-137	138.1	442.8	-1.3
84.0	2111	14282	-138	141.7	447.6	-1.3
84.5	2183	14507	-138	145.3	452.6	-1.3
85.0	2257	14734	-139	148.9	457.6	-1.3
85.5	2332	14964	-140	152.6	462.6	-1.2
86.0	2409	15197	-140	156.4	467.7	-1.2
86.5	2488	15432	-141	160.2	472.9	-1.2
87.0	2569	15670	-141	164.1	478.1	-1.2
87.5	2653	15910	-142	168.1	483.3	-1.2
88.0	2738	16153	-143	172.1	488.6	-1.2
88.5	2825	16399	-143	176.3	493.9	-1.3
89.0	2914	16647	-144	180.4	499.2	-1.3
89.5	3005	16898	-145	184.7	504.7	-1.3
90.0	3099	17152	-145	189.0	510.1	-1.3
90.5	3194	17408	-146	193.3	515.7	-1.3
91.0	3292	17668	-147	197.7	521.3	-1.3
91.5	3392	17930	-147	202.2	526.9	-1.3
92.0	3494	18194	-148	206.7	532.6	-1.3
92.5	3599	18462	-149	211.3	538.3	-1.3
93.0	3705	18733	-149	216.1	544.1	-1.3
93.5	3815	19006	-150	220.9	549.9	-1.3
94.0	3926	19283	-150	225.7	555.8	-1.3

TABLE IV

TIME SEC	EARTH-FIXED-POSITION			EARTH-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
94.5	4040	19562	-151	230.7	561.7	-1.3
95.0	4157	19844	-152	235.7	567.6	-1.3
95.5	4276	20130	-152	240.8	573.6	-1.3
96.0	4398	20418	-153	246.0	579.7	-1.3
96.5	4522	20709	-154	251.3	585.7	-1.3
97.0	4649	21004	-154	256.6	591.9	-1.3
97.5	4779	21301	-155	262.0	598.0	-1.3
98.0	4911	21602	-156	267.6	604.2	-1.3
98.5	5046	21905	-156	273.2	610.4	-1.3
99.0	5184	22212	-157	278.9	616.6	-1.3
99.5	5325	22522	-158	284.6	622.9	-1.3
100.0	5469	22835	-158	290.5	629.3	-1.3
100.5	5616	23151	-159	296.4	635.6	-1.3
101.0	5765	23471	-160	302.4	642.0	-1.3
101.5	5918	23793	-160	308.5	648.5	-1.2
102.0	6074	24119	-161	314.7	654.9	-1.2
102.5	6233	24448	-161	321.0	661.4	-1.2
103.0	6395	24781	-162	327.3	668.0	-1.1
103.5	6560	25116	-163	333.8	674.5	-1.1
104.0	6729	25455	-163	340.4	681.1	-1.1
104.5	6901	25797	-164	347.0	687.8	-1.0
105.0	7076	26143	-164	353.8	694.4	-1.0
105.5	7254	26492	-165	360.7	701.1	-1.0
106.0	7437	26844	-165	367.7	707.8	-1.0
106.5	7622	27200	-166	374.8	714.5	-0.9
107.0	7811	27559	-166	382.0	721.3	-0.9
107.5	8004	27921	-167	389.3	728.0	-0.8
108.0	8201	28287	-167	396.8	734.8	-0.8
108.5	8401	28656	-167	404.3	741.6	-0.7
109.0	8605	29028	-168	411.9	748.4	-0.6
109.5	8813	29404	-168	419.6	755.3	-0.6
110.0	9025	29783	-168	427.4	762.1	-0.5
110.5	9240	30166	-168	435.4	769.0	-0.5
111.0	9460	30552	-169	443.4	775.9	-0.5
111.5	9684	30942	-169	451.5	782.8	-0.4
112.0	9912	31335	-169	459.8	789.8	-0.4
112.5	10143	31732	-169	468.1	796.7	-0.3
113.0	10380	32132	-169	476.6	803.7	-0.2
113.5	10620	32536	-170	485.2	810.7	-0.2
114.0	10865	32943	-170	494.0	817.7	-0.1

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TABLE IV

TIME SEC	EARTH-FIXED-POSITION			EARTH-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
114.5	11114	33353	-170	502.8	824.7	-0.1
115.0	11368	33767	-170	511.8	831.7	-0.1
115.5	11626	34185	-170	521.0	838.7	-0.1
116.0	11889	34606	-170	530.2	845.7	-0.1
116.5	12156	35031	-170	539.5	852.8	-0.1
117.0	12428	35459	-170	549.0	859.8	-0.1
117.5	12705	35891	-170	558.5	867.0	-0.0
118.0	12987	36326	-170	568.1	874.1	0.1
118.5	13273	36765	-170	577.8	881.3	0.1
119.0	13565	37207	-170	587.6	888.6	0.2
119.5	13861	37653	-170	597.5	895.8	0.3
120.0	14162	38103	-169	607.5	903.1	0.3
120.5	14468	38557	-169	617.6	910.5	0.3
121.0	14780	39014	-169	627.7	917.8	0.3
121.5	15096	39474	-169	638.1	925.2	0.4
122.0	15418	39939	-169	648.5	932.6	0.4
122.5	15745	40407	-169	659.0	940.1	0.6
123.0	16077	40879	-168	669.6	947.6	0.7
123.5	16414	41355	-168	680.4	955.1	0.7
124.0	16757	41834	-167	691.2	962.7	0.8
124.5	17106	42317	-167	702.1	970.3	0.8
125.0	17459	42804	-167	713.1	977.9	0.8
125.5	17819	43295	-166	724.2	985.6	0.9
126.0	18184	43790	-166	735.4	993.3	0.9
126.5	18554	44289	-165	746.8	1001.0	1.0
127.0	18930	44791	-165	758.3	1008.8	1.1
127.5	19312	45297	-164	769.9	1016.6	1.2
128.0	19700	45808	-164	781.6	1024.4	1.3
128.5	20094	46322	-163	793.5	1032.3	1.5
129.0	20494	46840	-162	805.4	1040.3	1.5
129.5	20900	47362	-161	817.4	1048.2	1.6
130.0	21311	47888	-161	829.5	1056.2	1.6
130.5	21729	48418	-160	841.7	1064.3	1.6
131.0	22153	48952	-159	854.0	1072.3	1.7
131.5	22583	49491	-158	866.5	1080.5	1.7
132.0	23019	50033	-157	879.0	1088.7	1.8
132.5	23462	50579	-156	891.5	1097.0	1.8
133.0	23911	51130	-155	904.1	1105.4	1.9
133.5	24366	51685	-154	916.9	1113.9	2.0
134.0	24828	52244	-153	929.7	1122.5	2.0

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TABLE IV

TIME SEC	EARTH-FIXED-POSITION			EARTH-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
134.5	25296	52808	-152	942.5	1131.1	2.1
135.0	25770	53376	-150	955.5	1139.9	2.2
135.5	26252	53948	-149	968.5	1148.7	2.2
136.0	26739	54525	-148	981.6	1157.7	2.2
136.5	27233	55106	-146	994.8	1166.7	2.2
137.0	27734	55692	-145	1008.1	1175.8	2.2
137.5	28241	56282	-144	1021.5	1185.0	2.1
138.0	28756	56878	-142	1034.9	1194.3	2.1
138.5	29277	57477	-141	1048.5	1203.7	2.1
139.0	29804	58082	-139	1062.1	1213.2	2.1
139.5	30339	58691	-137	1075.8	1222.8	2.2
140.0	30880	59305	-135	1089.6	1232.5	2.2
140.5	31429	59924	-133	1103.5	1242.3	2.2
141.0	31984	60549	-131	1117.5	1252.2	2.2
141.5	32546	61177	-130	1131.6	1262.2	2.2
INBOARD ENGINE CUTOFF						
141.660	32728	61380	-129	1136.1	1265.4	2.2
MAXIMUM LONGITUDINAL ACCELERATION						
141.800	32887	61557	-129	1140.1	1268.2	2.2
BEGIN INBOARD ENGINE THRUST DECAY						
141.800	32887	61557	-129	1140.1	1268.2	2.2
142.0	33115	61811	-128	1144.0	1270.4	2.3
142.5	33689	62448	-126	1151.7	1273.9	2.3
143.0	34267	63086	-124	1159.1	1277.0	2.4
143.5	34848	63725	-122	1166.5	1280.1	2.5
144.0	35433	64366	-120	1173.6	1282.8	2.6
END INBOARD ENGINE THRUST DECAY						
144.250	35727	64687	-118	1177.1	1284.2	2.6
144.5	36022	65009	-117	1180.6	1285.5	2.6
145.0	36614	65652	-115	1187.6	1288.3	2.7
145.5	37209	66298	-113	1194.7	1291.0	2.8
146.0	37808	66944	-110	1201.7	1293.8	2.9
146.5	38411	67592	-108	1208.8	1296.6	2.9
147.0	39017	68241	-105	1215.9	1299.4	3.0
147.5	39627	68892	-103	1223.0	1302.2	3.1
148.0	40240	69545	-101	1230.2	1305.1	3.2

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TABLE IV

TIME SEC	EARTH-FIXED-POSITION			EARTH-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
148.5	40857	70198	-98	1237.3	1308.0	3.2
149.0	41477	70853	-96	1244.5	1310.9	3.3
OUTBOARD ENGINE CUTOFF						
149.090	41590	70971	-95	1245.8	1311.4	3.3
BEGIN OUTBOARD ENGINE THRUST DECAY						
149.200	41727	71116	-95	1247.3	1311.9	3.3
MAXIMUM EARTH-FIXED VELOCITY						
149.500	42101	71510	-93	1249.7	1311.8	3.4
150.0	42726	72165	-91	1250.9	1308.5	3.6
150.5	43352	72818	-88	1251.4	1304.4	3.7
151.0	43977	73469	-85	1251.5	1300.0	3.9
151.5	44603	74118	-82	1251.5	1295.4	4.1
152.0	45228	74765	-79	1251.4	1290.8	4.2
152.5	45853	75409	-76	1251.2	1286.1	4.4
END OUTBOARD ENGINE THRUST DECAY						
152.780	46204	75769	-74	1251.2	1283.5	4.5
153.0	46479	76051	-73	1251.1	1281.5	4.6
153.5	47105	76690	-70	1251.0	1276.8	4.8
RETRO ROCKETS IGNITE						
153.700	47355	76945	-69	1250.9	1274.9	4.8
154.0	47731	77326	-67	1250.1	1271.3	4.9
154.5	48354	77960	-64	1248.3	1264.9	5.1
155.0	48975	78592	-60	1246.4	1258.4	5.3
155.5	49596	79219	-57	1244.7	1252.1	5.4
RETRO ROCKETS BURNOUT						
155.900	50095	79719	-54	1244.0	1247.8	5.6
156.0	50219	79844	-54	1243.9	1246.8	5.6
156.5	50842	80465	-52	1243.7	1242.0	5.8
157.0	51465	81084	-49	1243.5	1237.2	5.9
157.5	52087	81702	-46	1243.3	1232.5	6.1
158.0	52708	82317	-43	1243.1	1227.7	6.3
158.5	53330	82929	-40	1242.8	1223.0	6.4
159.0	53951	83540	-37	1242.6	1218.2	6.6
159.5	54572	84148	-33	1242.4	1213.6	6.6

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TABLE IV

TIME SEC	EARTH-FIXED-POSITION			EARTH-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
160.0	55194	84753	-30	1242.3	1208.9	6.7
160.5	55815	85356	-27	1242.1	1204.0	6.7
161.0	56436	85957	-23	1242.0	1199.3	6.8
161.5	57057	86556	-20	1241.9	1194.6	6.9
162.0	57678	87152	-16	1241.8	1190.0	6.9
162.5	58299	87746	-13	1241.7	1185.3	7.0
163.0	58920	88337	-9	1241.6	1180.6	7.0
163.5	59540	88926	-6	1241.4	1175.9	7.1
164.0	60161	89513	-2	1241.3	1171.2	7.1
164.5	60782	90097	1	1241.2	1166.5	7.2
165.0	61402	90679	5	1241.1	1161.9	7.3
165.5	62023	91259	8	1241.0	1157.2	7.3
166.0	62643	91837	12	1240.8	1152.5	7.4
166.5	63264	92412	16	1240.7	1147.8	7.4
167.0	63884	92984	20	1240.6	1143.1	7.5
167.5	64504	93555	23	1240.5	1138.5	7.5
168.0	65124	94123	27	1240.4	1133.8	7.6
168.5	65745	94689	31	1240.2	1129.1	7.7
169.0	66365	95252	35	1240.1	1124.4	7.7
169.5	66985	95813	39	1240.0	1119.8	7.8
170.0	67605	96372	42	1239.9	1115.1	7.8
170.5	68225	96928	46	1239.8	1110.4	7.9
171.0	68844	97482	50	1239.6	1105.8	7.9
171.5	69464	98034	54	1239.5	1101.1	8.0
172.0	70084	98583	58	1239.4	1096.4	8.0
172.5	70704	99130	62	1239.3	1091.7	8.1
173.0	71323	99675	66	1239.2	1087.1	8.2
173.5	71943	100217	71	1239.0	1082.4	8.2
174.0	72562	100757	75	1238.9	1077.8	8.3
174.5	73182	101295	79	1238.8	1073.1	8.3
175.0	73801	101830	83	1238.7	1068.4	8.4
175.5	74420	102364	87	1238.5	1063.8	8.4
176.0	75040	102894	91	1238.4	1059.1	8.5
176.5	75659	103423	96	1238.3	1054.4	8.5
177.0	76278	103949	100	1238.2	1049.8	8.6
177.5	76897	104472	104	1238.1	1045.1	8.6
178.0	77516	104994	109	1237.9	1040.5	8.7
178.5	78135	105513	113	1237.8	1035.8	8.8
179.0	78754	106030	117	1237.7	1031.1	8.8
179.5	79373	106544	122	1237.6	1026.5	8.9

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TIME SEC	EARTH-FIXED-POSITION			EARTH-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
180.0	79991	107056	126	1237.4	1021.8	8.9
180.5	80610	107566	131	1237.3	1017.2	9.0
181.0	81229	108073	135	1237.2	1012.5	9.0
181.5	81847	108578	140	1237.1	1007.9	9.1
182.0	82466	109081	144	1237.0	1003.2	9.1
182.5	83084	109582	149	1236.8	998.6	9.2
183.0	83703	110080	153	1236.7	993.9	9.2
183.5	84321	110575	158	1236.6	989.3	9.3
184.0	84939	111069	163	1236.5	984.6	9.4
184.5	85557	111560	167	1236.3	980.0	9.4
185.0	86176	112049	172	1236.2	975.3	9.5
185.5	86794	112535	177	1236.1	970.7	9.5
186.0	87412	113020	182	1236.0	966.0	9.6
186.5	88030	113501	187	1235.8	961.4	9.6
187.0	88647	113981	191	1235.7	956.7	9.7
187.5	89265	114458	196	1235.6	952.1	9.7
188.0	89883	114933	201	1235.5	947.4	9.8
188.5	90501	115406	206	1235.3	942.8	9.8
189.0	91118	115876	211	1235.2	938.1	9.9
189.5	91736	116344	216	1235.1	933.5	10.0
190.0	92353	116809	221	1235.0	928.9	10.0
190.5	92971	117273	226	1234.8	924.2	10.1
191.0	93588	117734	231	1234.7	919.6	10.1
191.5	94206	118192	236	1234.6	914.9	10.2
192.0	94823	118648	241	1234.5	910.3	10.2
192.5	95440	119102	246	1234.3	905.7	10.3
193.0	96057	119554	251	1234.2	901.0	10.3
193.5	96674	120003	257	1234.1	896.4	10.4
194.0	97291	120450	262	1233.9	891.7	10.4
194.5	97908	120895	267	1233.8	887.1	10.5
195.0	98525	121338	272	1233.7	882.5	10.5
195.5	99142	121778	278	1233.6	877.8	10.6
196.0	99759	122215	283	1233.4	873.2	10.6
196.5	100375	122651	288	1233.3	868.6	10.7
197.0	100992	123084	294	1233.2	863.9	10.7
197.5	101609	123515	299	1233.1	859.3	10.8
198.0	102225	123943	304	1232.9	854.7	10.9
198.5	102841	124369	310	1232.8	850.0	10.9
199.0	103458	124793	315	1232.7	845.4	11.0
199.5	104074	125215	321	1232.5	840.8	11.0

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TABLE IV

TIME SEC	EARTH-FIXED-POSITION			EARTH-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
200.0	104690	125634	326	1232.4	836.2	11.1
200.5	105306	126051	332	1232.3	831.5	11.1
201.0	105923	126466	337	1232.2	826.9	11.2
201.5	106539	126878	343	1232.0	822.3	11.2
202.0	107155	127288	349	1231.9	817.7	11.3
202.5	107771	127696	354	1231.8	813.0	11.3
203.0	108386	128101	360	1231.6	808.4	11.4
203.5	109002	128504	366	1231.5	803.8	11.4
204.0	109618	128905	371	1231.4	799.2	11.5
204.5	110234	129303	377	1231.2	794.5	11.5
205.0	110849	129699	383	1231.1	789.9	11.6
205.5	111465	130093	389	1231.0	785.3	11.6
206.0	112080	130485	394	1230.9	780.7	11.7
206.5	112696	130874	400	1230.7	776.0	11.7
207.0	113311	131261	406	1230.6	771.4	11.8
207.5	113926	131645	412	1230.5	766.8	11.8
208.0	114541	132027	418	1230.3	762.2	11.9
208.5	115156	132407	424	1230.2	757.6	11.9
209.0	115772	132785	430	1230.1	752.9	12.0
209.5	116387	133160	436	1229.9	748.3	12.0
210.0	117001	133533	442	1229.8	743.7	12.1
210.5	117616	133904	448	1229.7	739.1	12.1
211.0	118231	134272	454	1229.5	734.5	12.2
211.5	118846	134638	460	1229.4	729.9	12.3
212.0	119461	135002	466	1229.3	725.3	12.3
212.5	120075	135364	473	1229.1	720.6	12.4
213.0	120690	135723	479	1229.0	716.0	12.4
213.5	121304	136080	485	1228.9	711.4	12.5
214.0	121919	136434	491	1228.7	706.8	12.5
214.5	122533	136786	498	1228.6	702.2	12.6
215.0	123147	137136	504	1228.5	697.6	12.6
215.5	123761	137484	510	1228.4	693.0	12.7
216.0	124376	137829	516	1228.2	688.4	12.7
216.5	124990	138172	523	1228.1	683.7	12.8
217.0	125604	138513	529	1228.0	679.1	12.8
217.5	126218	138852	536	1227.8	674.5	12.9
218.0	126831	139188	542	1227.7	669.9	12.9
218.5	127445	139521	549	1227.5	665.3	13.0
219.0	128059	139853	555	1227.4	660.7	13.0
219.5	128673	140182	562	1227.3	656.1	13.1

TABLE IV

TIME SEC	EARTH-FIXED-POSITION			EARTH-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
220.0	129286	140509	568	1227.1	651.5	13.1
220.5	129900	140834	575	1227.0	646.9	13.2
221.0	130513	141156	581	1226.9	642.3	13.2
221.5	131127	141476	588	1226.7	637.7	13.3
222.0	131740	141794	595	1226.6	633.1	13.3
222.5	132353	142109	601	1226.5	628.5	13.4
223.0	132966	142422	608	1226.3	623.9	13.4
223.5	133580	142733	615	1226.2	619.3	13.5
224.0	134193	143041	621	1226.1	614.7	13.5
224.5	134806	143348	628	1225.9	610.1	13.6
225.0	135419	143651	635	1225.8	605.5	13.6
225.5	136031	143953	642	1225.7	600.9	13.7
226.0	136644	144252	649	1225.5	596.2	13.7
226.5	137257	144549	655	1225.4	591.6	13.8
227.0	137870	144844	662	1225.3	587.0	13.8
227.5	138482	145136	669	1225.1	582.5	13.9
228.0	139095	145426	676	1225.0	577.9	13.9
228.5	139707	145714	683	1224.8	573.3	13.9
229.0	140320	146000	690	1224.7	568.7	14.0
229.5	140932	146283	697	1224.6	564.1	14.0
230.0	141544	146564	704	1224.4	559.5	14.1
230.5	142156	146842	711	1224.3	554.9	14.1
231.0	142768	147118	718	1224.2	550.3	14.2
231.5	143381	147392	725	1224.0	545.7	14.2
232.0	143992	147664	732	1223.9	541.1	14.3
232.5	144604	147934	740	1223.7	536.5	14.3
233.0	145216	148201	747	1223.6	531.9	14.4
233.5	145828	148465	754	1223.5	527.3	14.4
234.0	146440	148728	761	1223.3	522.7	14.5
234.5	147051	148988	768	1223.2	518.1	14.5
235.0	147663	149246	776	1223.1	513.5	14.6
235.5	148274	149502	783	1222.9	508.9	14.6
236.0	148886	149755	790	1222.8	504.3	14.7
236.5	149497	150006	798	1222.6	499.7	14.7
237.0	150108	150255	805	1222.5	495.1	14.8
237.5	150720	150501	813	1222.4	490.6	14.8
238.0	151331	150745	820	1222.2	486.0	14.9
238.5	151942	150987	827	1222.1	481.4	14.9
239.0	152553	151227	835	1221.9	476.8	15.0
239.5	153164	151464	842	1221.8	472.2	15.0

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TIME SEC	EARTH-FIXED-POSITION			EARTH-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
240.0	153775	151699	850	1221.7	467.6	15.1
240.5	154385	151931	857	1221.5	463.0	15.1
241.0	154996	152162	865	1221.4	458.4	15.2
241.5	155607	152390	873	1221.2	453.8	15.2
242.0	156217	152616	880	1221.1	449.2	15.2
242.5	156828	152839	888	1221.0	444.7	15.3
243.0	157438	153060	895	1220.8	440.1	15.3
243.5	158049	153279	903	1220.7	435.5	15.4
244.0	158659	153496	911	1220.5	430.9	15.4
244.5	159269	153710	919	1220.4	426.3	15.5
245.0	159880	153922	926	1220.3	421.7	15.5
245.5	160490	154132	934	1220.1	417.1	15.6
246.0	161100	154339	942	1220.0	412.6	15.6
246.5	161710	154544	950	1219.8	408.0	15.7
247.0	162319	154747	958	1219.7	403.4	15.7
247.5	162929	154948	965	1219.6	398.8	15.8
248.0	163539	155146	973	1219.4	394.2	15.8
248.5	164149	155342	981	1219.3	389.6	15.9
249.0	164758	155536	989	1219.1	385.0	15.9
249.5	165368	155727	997	1219.0	380.5	15.9
250.0	165977	155916	1005	1218.8	375.9	16.0
250.5	166587	156103	1013	1218.7	371.3	16.0
251.0	167196	156287	1021	1218.6	366.7	16.1
251.5	167805	156470	1029	1218.4	362.1	16.1
252.0	168414	156650	1037	1218.3	357.6	16.2
252.5	169023	156827	1045	1218.1	353.0	16.2
253.0	169632	157002	1054	1218.0	348.4	16.3
253.5	170241	157175	1062	1217.8	343.8	16.3
254.0	170850	157346	1070	1217.7	339.2	16.4
254.5	171459	157515	1078	1217.6	334.7	16.4
255.0	172068	157681	1086	1217.4	330.1	16.5
255.5	172677	157845	1095	1217.3	325.5	16.5
256.0	173285	158006	1103	1217.1	320.9	16.5
256.5	173894	158166	1111	1217.0	316.3	16.6
257.0	174502	158323	1119	1216.8	311.8	16.6
257.5	175111	158478	1128	1216.7	307.2	16.7
258.0	175719	158630	1136	1216.5	302.6	16.7
258.5	176327	158780	1144	1216.4	298.0	16.8
259.0	176935	158928	1153	1216.3	293.4	16.8
259.5	177543	159073	1161	1216.1	288.9	16.9

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TIME SEC	EARTH-FIXED-POSITION			EARTH-FIXED-VELOCITY		
	X. M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
260.0	178151	159217	1170	1216.0	284.3	16.9
260.5	178759	159358	1178	1215.8	279.7	17.0
261.0	179367	159497	1187	1215.7	275.1	17.0
261.5	179975	159633	1195	1215.5	270.6	17.0
262.0	180583	159767	1204	1215.4	266.0	17.1
262.5	181190	159899	1212	1215.2	261.4	17.1
263.0	181798	160028	1221	1215.1	256.8	17.2
263.5	182405	160156	1229	1214.9	252.2	17.2
264.0	183013	160281	1238	1214.8	247.7	17.3
264.5	183620	160403	1247	1214.7	243.1	17.3
265.0	184228	160524	1255	1214.5	238.5	17.4
265.5	184835	160642	1264	1214.4	233.9	17.4
266.0	185442	160758	1273	1214.2	229.4	17.4
266.5	186049	160871	1281	1214.1	224.8	17.5
267.0	186656	160983	1290	1213.9	220.2	17.5
267.5	187263	161091	1299	1213.8	215.6	17.6
268.0	187870	161198	1308	1213.6	211.1	17.6
268.5	188476	161303	1317	1213.5	206.5	17.7
269.0	189083	161405	1326	1213.3	201.9	17.7
269.5	189690	161505	1334	1213.2	197.3	17.8
270.0	190296	161602	1343	1213.0	192.8	17.8
270.5	190903	161697	1352	1212.9	188.2	17.8
271.0	191509	161790	1361	1212.7	183.6	17.9
271.5	192116	161881	1370	1212.6	179.1	17.9
272.0	192722	161969	1379	1212.4	174.5	18.0
272.5	193328	162055	1388	1212.3	169.9	18.0
273.0	193934	162139	1397	1212.1	165.3	18.1
273.5	194540	162221	1406	1212.0	160.8	18.1
274.0	195146	162300	1415	1211.8	156.2	18.1
274.5	195752	162377	1424	1211.7	151.6	18.2
275.0	196358	162452	1433	1211.5	147.0	18.2
275.5	196964	162524	1442	1211.4	142.5	18.3
276.0	197569	162594	1452	1211.3	137.9	18.3
276.5	198175	162662	1461	1211.1	133.3	18.4
277.0	198780	162727	1470	1211.0	128.8	18.4
277.5	199386	162791	1479	1210.8	124.2	18.4
278.0	199991	162851	1488	1210.7	119.6	18.5
278.5	200596	162910	1498	1210.5	115.0	18.5
279.0	201202	162967	1507	1210.4	110.5	18.6
279.5	201807	163021	1516	1210.2	105.9	18.6

TABLE IV

TIME SEC	EARTH-FIXED-POSITION			EARTH-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
280.0	202412	163073	1526	1210.0	101.3	18.7
280.5	203017	163122	1535	1209.9	96.8	18.7
281.0	203622	163169	1544	1209.7	92.2	18.7
281.5	204227	163214	1554	1209.6	87.6	18.8
282.0	204831	163257	1563	1209.4	83.1	18.8
282.5	205436	163297	1573	1209.3	78.5	18.9
283.0	206041	163335	1582	1209.1	73.9	18.9
283.5	206645	163371	1591	1209.0	69.3	19.0
284.0	207250	163405	1601	1208.8	64.8	19.0
284.5	207854	163436	1610	1208.7	60.2	19.0
285.0	208458	163465	1620	1208.5	55.6	19.1
285.5	209062	163491	1630	1208.4	51.1	19.1
286.0	209667	163516	1639	1208.2	46.5	19.2
286.5	210271	163538	1649	1208.1	41.9	19.2
287.0	210875	163558	1658	1207.9	37.4	19.3
287.5	211479	163575	1668	1207.8	32.8	19.3
288.0	212082	163591	1678	1207.6	28.2	19.3
288.5	212686	163604	1687	1207.5	23.6	19.4
289.0	213290	163614	1697	1207.3	19.1	19.4
289.5	213894	163623	1707	1207.2	14.5	19.5
290.0	214497	163629	1716	1207.0	9.9	19.5
290.5	215101	163633	1726	1206.9	5.4	19.5
291.0	215704	163634	1736	1206.7	0.8	19.6
291.5	216307	163633	1746	1206.5	-3.8	19.6
WATER RELEASE						
292.000	216911	163630	1756	1206.4	-8.3	19.7

TABLE V

TIME SEC	SPACE-FIXED-POSITION			SPACE-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
FIRST MOTION						
0.100	-0	-0	-0	402.8	0.0	-71.0
LIFT OFF SIGNAL						
0.330	93	-0	-16	402.8	0.4	-71.0
0.5	161	0	-28	402.8	0.6	-71.1
1.0	362	1	-64	402.8	1.4	-71.1
1.5	564	2	-100	402.8	2.3	-71.1
2.0	765	3	-135	402.8	3.2	-71.1
2.5	967	5	-171	402.8	4.1	-71.1
3.0	1168	7	-206	402.7	5.0	-71.1
3.5	1369	10	-242	402.7	5.9	-71.1
4.0	1571	13	-277	402.7	6.9	-71.1
4.5	1772	17	-313	402.7	7.9	-71.1
5.0	1973	21	-348	402.7	8.9	-71.1
5.5	2175	25	-384	402.7	9.9	-71.1
6.0	2376	31	-420	402.7	11.0	-71.2
6.5	2578	36	-455	402.7	12.0	-71.2
7.0	2779	43	-491	402.7	13.1	-71.2
7.5	2980	49	-526	402.7	14.2	-71.2
8.0	3182	57	-562	402.7	15.3	-71.3
8.5	3383	65	-598	402.7	16.5	-71.3
9.0	3584	73	-633	402.7	17.6	-71.4
9.5	3786	82	-669	402.7	18.8	-71.4
10.0	3987	92	-705	402.7	20.0	-71.4
10.5	4189	102	-740	402.8	21.2	-71.5
11.0	4390	113	-776	402.8	22.5	-71.5
11.5	4591	125	-812	402.8	23.7	-71.5
12.0	4793	137	-848	402.8	25.0	-71.6
12.5	4994	150	-884	402.8	26.3	-71.6
13.0	5195	163	-919	402.8	27.6	-71.6
13.5	5397	178	-955	402.8	29.0	-71.6
14.0	5598	192	-991	402.8	30.4	-71.7
14.5	5800	208	-1027	402.8	31.7	-71.7
15.0	6001	224	-1063	402.8	33.2	-71.7
15.5	6202	241	-1098	402.8	34.6	-71.7
16.0	6404	259	-1134	402.8	36.0	-71.7
16.5	6605	277	-1170	402.8	37.5	-71.7
17.0	6806	296	-1206	402.8	39.0	-71.7

TABLE V

TIME SEC	SPACE-FIXED-POSITION			SPACE-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
17.5	7008	316	-1242	402.8	40.5	-71.7
18.0	7209	337	-1278	402.8	42.0	-71.7
18.5	7411	358	-1314	402.8	43.6	-71.7
19.0	7612	380	-1350	402.8	45.2	-71.8
19.5	7813	403	-1385	402.8	46.7	-71.8
20.0	8015	427	-1421	402.8	48.4	-71.8
20.5	8216	452	-1457	402.8	50.0	-71.8
21.0	8418	477	-1493	402.8	51.6	-71.8
21.5	8619	503	-1529	402.9	53.3	-71.9
22.0	8821	530	-1565	402.9	55.0	-71.9
22.5	9022	558	-1601	402.9	56.6	-72.0
23.0	9223	587	-1637	402.9	58.4	-72.0
23.5	9425	617	-1673	403.0	60.1	-72.0
24.0	9626	647	-1709	403.0	61.9	-72.1
24.5	9828	679	-1745	403.1	63.6	-72.2
25.0	10029	711	-1781	403.1	65.4	-72.2
25.5	10231	744	-1817	403.2	67.2	-72.3
26.0	10433	778	-1853	403.2	69.1	-72.3
26.5	10634	813	-1890	403.3	70.9	-72.4
27.0	10836	849	-1926	403.4	72.8	-72.5
27.5	11038	886	-1962	403.4	74.7	-72.5
28.0	11239	924	-1998	403.5	76.6	-72.6
28.5	11441	962	-2035	403.6	78.6	-72.6
29.0	11643	1002	-2071	403.7	80.5	-72.7
29.5	11845	1043	-2107	403.8	82.5	-72.7
30.0	12047	1085	-2144	403.9	84.6	-72.7
30.5	12249	1128	-2180	404.0	86.6	-72.7
31.0	12451	1171	-2216	404.1	88.7	-72.7
31.5	12653	1216	-2253	404.2	90.8	-72.7
32.0	12855	1262	-2289	404.3	92.9	-72.7
32.5	13057	1309	-2326	404.4	95.1	-72.7
33.0	13259	1357	-2362	404.5	97.3	-72.7
33.5	13462	1406	-2398	404.6	99.5	-72.7
34.0	13664	1457	-2435	404.8	101.7	-72.7
34.5	13866	1508	-2471	404.9	104.0	-72.7
35.0	14069	1561	-2507	405.0	106.3	-72.7
35.5	14271	1615	-2544	405.2	108.5	-73.1
36.0	14474	1669	-2580	405.3	110.7	-73.2
36.5	14677	1725	-2617	405.4	113.1	-73.2
37.0	14879	1782	-2654	405.6	115.4	-73.3

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TABLE V

TIME SEC	SPACE-FIXED-POSITION			SPACE-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
37.5	15082	1841	-2690	405.7	117.8	-73.4
38.0	15285	1900	-2727	405.9	120.1	-73.5
38.5	15488	1961	-2764	406.0	122.5	-73.5
39.0	15691	2023	-2801	406.2	125.0	-73.6
39.5	15894	2086	-2837	406.3	127.5	-73.7
40.0	16096	2150	-2874	406.5	129.9	-73.7
40.5	16300	2215	-2911	406.8	132.5	-73.7
41.0	16503	2282	-2948	407.0	135.0	-73.8
41.5	16707	2350	-2985	407.2	137.6	-73.8
42.0	16910	2420	-3022	407.5	140.2	-73.8
42.5	17114	2491	-3059	407.8	142.8	-73.9
43.0	17318	2563	-3096	408.1	145.5	-74.0
43.5	17522	2636	-3133	408.4	148.2	-74.0
44.0	17727	2711	-3170	408.7	150.9	-74.1
44.5	17931	2787	-3207	409.1	153.6	-74.1
45.0	18136	2864	-3244	409.4	156.3	-74.2
45.5	18341	2943	-3281	409.8	159.1	-74.2
46.0	18545	3024	-3318	410.2	161.9	-74.3
46.5	18751	3105	-3355	410.7	164.8	-74.3
47.0	18956	3188	-3392	411.1	167.6	-74.4
47.5	19162	3273	-3430	411.6	170.5	-74.5
48.0	19368	3359	-3467	412.1	173.5	-74.5
48.5	19574	3446	-3504	412.6	176.4	-74.6
49.0	19780	3535	-3541	413.2	179.4	-74.6
49.5	19987	3626	-3579	413.8	182.4	-74.7
50.0	20194	3718	-3616	414.4	185.4	-74.7
50.5	20402	3811	-3653	415.0	188.5	-74.7
51.0	20609	3906	-3691	415.7	191.6	-74.8
51.5	20817	4003	-3728	416.4	194.7	-74.8
52.0	21026	4101	-3766	417.1	197.8	-74.9
52.5	21234	4201	-3803	417.9	201.0	-74.9
53.0	21444	4302	-3841	418.6	204.2	-74.9
53.5	21653	4405	-3878	419.5	207.5	-75.0
54.0	21863	4509	-3916	420.3	210.7	-75.0
54.5	22073	4616	-3953	421.2	214.0	-75.0
55.0	22284	4723	-3991	422.1	217.3	-75.0
55.5	22495	4833	-4028	423.1	220.7	-75.1
56.0	22707	4944	-4066	424.0	224.1	-75.1
56.5	22920	5057	-4103	425.1	227.5	-75.1
57.0	23132	5171	-4141	426.1	230.9	-75.1

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TABLE V

TIME SEC	SPACE-FIXED-POSITION			SPACE-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
57.5	23346	5288	-4178	427.2	234.3	-75.1
58.0	23559	5406	-4216	428.3	237.8	-75.1
58.5	23774	5526	-4253	429.5	241.3	-75.1
59.0	23989	5647	-4291	430.7	244.8	-75.1
59.5	24205	5771	-4328	431.9	248.4	-75.1
60.0	24421	5896	-4366	433.2	252.0	-75.1
60.5	24638	6022	-4404	434.5	255.5	-75.1
61.0	24856	6151	-4441	435.9	259.1	-75.1
61.5	25074	6282	-4479	437.3	262.8	-75.1
62.0	25296	6415	-4526	438.9	266.3	-75.1
62.5	25516	6549	-4564	440.4	269.9	-75.1
63.0	25737	6685	-4602	441.9	273.6	-75.1
63.5	25958	6822	-4639	443.5	277.3	-75.1
64.0	26180	6962	-4676	445.1	281.0	-75.0
64.5	26403	7104	-4714	446.8	284.7	-75.0
65.0	26627	7247	-4751	448.5	288.5	-75.0
65.5	26851	7393	-4789	450.3	292.2	-74.9
66.0	27077	7540	-4826	452.0	296.0	-74.9
66.5	27303	7689	-4863	453.9	299.8	-74.9
67.0	27530	7840	-4901	455.8	303.5	-74.8
67.5	27758	7993	-4938	457.7	307.3	-74.8
68.0	27987	8148	-4975	459.7	311.1	-74.7
MACH 1						
68.100	28033	8179	-4983	460.1	311.9	-74.7
68.5	28218	8305	-5013	461.7	314.9	-74.7
69.0	28449	8463	-5050	463.8	318.6	-74.6
69.5	28681	8624	-5087	465.9	322.4	-74.6
70.0	28914	8786	-5125	468.1	326.1	-74.6
70.5	29149	8950	-5162	470.3	329.9	-74.6
71.0	29384	9116	-5199	472.5	333.6	-74.6
71.5	29621	9284	-5236	474.7	337.4	-74.7
72.0	29859	9454	-5274	477.0	341.2	-74.7
72.5	30097	9626	-5311	479.3	345.0	-74.6
73.0	30337	9800	-5348	481.6	348.9	-74.6
73.5	30579	9975	-5385	484.0	352.8	-74.6
74.0	30821	10153	-5423	486.4	356.8	-74.6
74.5	31065	10333	-5460	488.9	360.8	-74.6
75.0	31310	10514	-5497	491.4	364.8	-74.5
75.5	31556	10698	-5534	494.0	368.9	-74.5

TABLE V

TIME SEC	SPACE-FIXED-POSITION			SPACE-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
76.0	31804	10884	-5571	496.6	373.1	-74.4
76.5	32053	11071	-5608	499.3	377.3	-74.4
77.0	32303	11261	-5646	502.0	381.5	-74.3
77.5	32555	11453	-5683	504.8	385.8	-74.3
78.0	32808	11647	-5720	507.7	390.1	-74.2
78.5	33062	11843	-5757	510.7	394.4	-74.1
MAXIMUM DYNAMIC PRESSURE						
78.600	33114	11883	-5764	511.3	395.2	-74.1
79.0	33319	12041	-5794	513.7	398.7	-74.1
79.5	33576	12242	-5831	516.8	403.1	-74.1
80.0	33835	12444	-5868	520.0	407.5	-74.1
80.5	34096	12649	-5905	523.2	411.9	-74.1
81.0	34359	12856	-5942	526.5	416.5	-74.1
81.5	34623	13066	-5979	529.9	421.0	-74.1
82.0	34889	13277	-6016	533.3	425.7	-74.2
82.5	35156	13491	-6053	536.8	430.3	-74.3
83.0	35425	13708	-6091	540.3	435.0	-74.4
83.5	35696	13926	-6128	543.9	439.7	-74.5
84.0	35969	14147	-6165	547.5	444.5	-74.6
84.5	36244	14371	-6202	551.1	449.4	-74.6
85.0	36520	14597	-6240	554.8	454.4	-74.6
85.5	36799	14825	-6277	558.6	459.4	-74.6
86.0	37079	15056	-6314	562.4	464.5	-74.6
86.5	37361	15290	-6352	566.3	469.6	-74.6
87.0	37645	15526	-6389	570.2	474.7	-74.7
87.5	37931	15765	-6426	574.3	479.9	-74.7
88.0	38219	16006	-6464	578.4	485.1	-74.8
88.5	38510	16250	-6501	582.6	490.4	-74.9
89.0	38802	16496	-6538	586.8	495.7	-74.9
89.5	39097	16745	-6576	591.1	501.1	-75.0
90.0	39393	16997	-6613	595.5	506.5	-75.0
90.5	39692	17252	-6651	599.9	512.0	-75.0
91.0	39993	17509	-6688	604.3	517.5	-75.1
91.5	40296	17769	-6726	608.9	523.1	-75.1
92.0	40602	18032	-6764	613.5	528.8	-75.1
92.5	40910	18298	-6801	618.1	534.4	-75.2
93.0	41220	18567	-6839	622.9	540.2	-75.2
93.5	41533	18838	-6876	627.8	545.9	-75.3
94.0	41848	19113	-6914	632.8	551.7	-75.3

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TABLE V

TIME SEC	SPACE-FIXED-POSITION			SPACE-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
94.5	42166	19390	-6952	637.8	557.6	-75.4
95.0	42486	19670	-6989	642.9	563.5	-75.4
95.5	42808	19954	-7027	648.1	569.4	-75.4
96.0	43134	20240	-7065	653.3	575.4	-75.5
96.5	43462	20529	-7102	658.6	581.4	-75.6
97.0	43792	20821	-7140	664.0	587.4	-75.6
97.5	44126	21116	-7178	669.5	593.5	-75.7
98.0	44462	21415	-7216	675.1	599.6	-75.7
98.5	44801	21716	-7254	680.8	605.8	-75.8
99.0	45143	22020	-7292	686.6	612.0	-75.8
99.5	45488	22328	-7330	692.4	618.2	-75.8
100.0	45835	22639	-7368	698.4	624.4	-75.9
100.5	46186	22952	-7405	704.4	630.7	-75.9
101.0	46540	23269	-7443	710.5	637.1	-75.9
101.5	46896	23590	-7481	716.6	643.4	-76.0
102.0	47256	23913	-7519	722.9	649.8	-76.0
102.5	47619	24239	-7557	729.3	656.2	-76.0
103.0	47986	24569	-7595	735.7	662.7	-76.0
103.5	48355	24902	-7633	742.3	669.2	-76.1
104.0	48728	25238	-7672	748.9	675.7	-76.1
104.5	49104	25578	-7710	755.7	682.3	-76.1
105.0	49484	25921	-7748	762.5	688.8	-76.2
105.5	49867	26267	-7786	769.5	695.4	-76.2
106.0	50253	26616	-7824	776.6	702.1	-76.2
106.5	50643	26969	-7862	783.8	708.7	-76.3
107.0	51037	27325	-7900	791.1	715.4	-76.3
107.5	51434	27684	-7938	798.5	722.0	-76.3
108.0	51835	28047	-7976	806.0	728.7	-76.3
108.5	52240	28413	-8015	813.6	735.4	-76.3
109.0	52649	28782	-8053	821.3	742.2	-76.3
109.5	53062	29155	-8091	829.1	748.9	-76.3
110.0	53478	29531	-8129	837.1	755.7	-76.3
110.5	53899	29911	-8167	845.1	762.5	-76.4
111.0	54323	30294	-8205	853.2	769.3	-76.4
111.5	54752	30680	-8244	861.4	776.1	-76.4
112.0	55185	31070	-8282	869.8	782.9	-76.4
112.5	55622	31463	-8320	878.2	789.8	-76.4
113.0	56063	31860	-8358	886.8	796.7	-76.4
113.5	56508	32260	-8396	895.5	803.5	-76.4
114.0	56958	32663	-8435	904.4	810.4	-76.5

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TABLE V

TIME SEC	SPACE-FIXED-POSITION			SPACE-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
114.5	57413	33070	-8473	913.3	817.3	-76.5
115.0	57872	33480	-8511	922.4	824.2	-76.6
115.5	58335	33894	-8549	931.7	831.1	-76.7
116.0	58803	34311	-8588	941.0	838.0	-76.8
116.5	59276	34732	-8626	950.4	844.9	-76.8
117.0	59754	35156	-8665	960.0	851.9	-76.9
117.5	60236	35584	-8703	969.6	858.9	-76.9
118.0	60724	36015	-8742	979.3	866.0	-77.0
118.5	61216	36450	-8780	989.1	873.0	-77.0
119.0	61713	36888	-8819	999.0	880.2	-77.0
119.5	62215	37330	-8857	1009.0	887.3	-77.0
120.0	62722	37776	-8896	1019.1	894.5	-77.1
120.5	63234	38225	-8934	1029.3	901.7	-77.2
121.0	63751	38677	-8973	1039.6	908.9	-77.2
121.5	64273	39134	-9011	1050.0	916.1	-77.3
122.0	64801	39593	-9050	1060.6	923.4	-77.3
122.5	65334	40057	-9089	1071.2	930.8	-77.3
123.0	65872	40524	-9127	1082.0	938.1	-77.3
123.5	66416	40995	-9166	1092.8	945.5	-77.3
124.0	66965	41470	-9205	1103.7	953.0	-77.3
124.5	67520	41948	-9243	1114.7	960.4	-77.4
125.0	68080	42430	-9282	1125.9	967.9	-77.5
125.5	68646	42916	-9321	1137.1	975.4	-77.6
126.0	69217	43406	-9360	1148.5	982.9	-77.6
126.5	69794	43899	-9398	1160.0	990.5	-77.7
127.0	70377	44396	-9437	1171.6	998.1	-77.7
127.5	70966	44897	-9476	1183.3	1005.8	-77.7
128.0	71560	45402	-9515	1195.2	1013.5	-77.6
128.5	72161	45911	-9554	1207.1	1021.2	-77.6
129.0	72768	46423	-9593	1219.2	1029.0	-77.7
129.5	73380	46940	-9631	1231.3	1036.8	-77.7
130.0	73999	47460	-9670	1243.5	1044.6	-77.8
130.5	74624	47984	-9709	1255.9	1052.5	-77.9
131.0	75255	48512	-9748	1268.3	1060.4	-78.0
131.5	75892	49045	-9787	1280.9	1068.4	-78.0
132.0	76536	49581	-9826	1293.5	1076.4	-78.1
132.5	77186	50121	-9865	1306.2	1084.6	-78.2
133.0	77842	50666	-9904	1319.0	1092.8	-78.2
133.5	78505	51214	-9943	1331.8	1101.1	-78.3
134.0	79174	51767	-9982	1344.8	1109.5	-78.3

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TABLE V

TIME SEC	SPACE-FIXED-POSITION			SPACE-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
134.5	79849	52324	-10021	1357.8	1118.0	-78.4
135.0	80532	52885	-10060	1370.9	1126.5	-78.5
135.5	81221	53451	-10099	1384.0	1135.2	-78.6
136.0	81916	54021	-10138	1397.3	1143.9	-78.7
136.5	82618	54595	-10177	1410.6	1152.7	-78.8
137.0	83327	55174	-10216	1424.1	1161.7	-79.0
137.5	84042	55757	-10256	1437.6	1170.7	-79.1
138.0	84764	56345	-10295	1451.2	1179.8	-79.3
138.5	85494	56938	-10334	1464.9	1189.0	-79.4
139.0	86230	57535	-10373	1478.7	1198.3	-79.5
139.5	86973	58136	-10412	1492.6	1207.7	-79.7
140.0	87722	58743	-10451	1506.6	1217.2	-79.8
140.5	88479	59354	-10490	1520.6	1226.8	-79.9
141.0	89243	59971	-10530	1534.8	1236.5	-80.1
141.5	90014	60592	-10569	1549.0	1246.2	-80.2
INBOARD ENGINE CUTOFF						
141.660	90262	60792	-10582	1553.6	1249.4	-80.2
MAXIMUM LONGITUDINAL ACCELERATION						
141.800	90480	60967	-10593	1557.6	1252.1	-80.3
BEGIN INBOARD ENGINE THRUST DECAY						
141.800	90480	60967	-10593	1557.6	1252.1	-80.3
142.0	90792	61218	-10609	1561.6	1254.3	-80.3
142.5	91575	61846	-10648	1569.4	1257.6	-80.3
143.0	92361	62476	-10687	1576.9	1260.5	-80.4
143.5	93151	63107	-10727	1584.4	1263.5	-80.4
144.0	93945	63740	-10766	1591.6	1266.1	-80.4
END INBOARD ENGINE THRUST DECAY						
144.250	94344	64057	-10785	1595.2	1267.4	-80.4
144.5	94743	64374	-10805	1598.7	1268.6	-80.4
145.0	95544	65009	-10844	1605.8	1271.2	-80.5
145.5	96349	65646	-10884	1613.0	1273.8	-80.5
146.0	97157	66283	-10923	1620.2	1276.4	-80.5
146.5	97969	66923	-10962	1627.3	1279.1	-80.5
147.0	98784	67563	-11001	1634.5	1281.7	-80.6
147.5	99603	68205	-11041	1641.8	1284.4	-80.6
148.0	100426	68848	-11080	1649.0	1287.1	-80.6

TABLE V

TIME SEC	SPACE-FIXED-POSITION			SPACE-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
148.5	101252	69493	-11120	1656.3	1289.8	-80.7
149.0	102082	70139	-11159	1663.6	1292.6	-80.7
OUTBOARD ENGINE CUTOFF						
149.090	102232	70255	-11166	1664.9	1293.0	-80.7
BEGIN OUTBOARD ENGINE THRUST DECAY						
149.200	102415	70398	-11175	1666.4	1293.5	-80.7
MAXIMUM EARTH-FIXED VELOCITY						
149.500	102916	70786	-11199	1668.9	1293.3	-80.7
150.0	103750	71432	-11238	1670.1	1289.9	-80.6
150.5	104585	72076	-11277	1670.6	1285.8	-80.5
151.0	105421	72718	-11317	1670.8	1281.3	-80.4
151.5	106256	73357	-11356	1670.8	1276.6	-80.3
152.0	107091	73995	-11395	1670.7	1271.9	-80.1
152.5	107926	74629	-11435	1670.6	1267.1	-80.0
END OUTBOARD ENGINE THRUST DECAY						
152.780	108393	74983	-11456	1670.6	1264.5	-80.0
153.0	108761	75261	-11474	1670.6	1262.4	-79.9
153.5	109597	75891	-11513	1670.5	1257.6	-79.8
RETRO ROCKETS IGNITE						
153.700	109930	76142	-11529	1670.4	1255.7	-79.7
154.0	110432	76517	-11553	1669.6	1252.0	-79.7
154.5	111265	77142	-11591	1667.8	1245.5	-79.6
155.0	112096	77764	-11630	1665.9	1239.0	-79.4
155.5	112927	78382	-11669	1664.2	1232.6	-79.3
RETRO ROCKETS BURNOUT						
155.900	113593	78874	-11701	1663.5	1228.2	-79.2
156.0	113760	78996	-11709	1663.5	1227.2	-79.2
156.5	114593	79608	-11749	1663.2	1222.3	-79.1
157.0	115425	80217	-11789	1663.1	1217.4	-79.0
157.5	116257	80825	-11828	1662.9	1212.6	-78.9
158.0	117088	81430	-11868	1662.7	1207.8	-78.8
158.5	117919	82032	-11907	1662.5	1202.9	-78.7
159.0	118751	82633	-11946	1662.4	1198.1	-78.5
159.5	119582	83231	-11985	1662.1	1193.4	-78.6

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TABLE V

TIME SEC	SPACE-FIXED-POSITION			SPACE-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
160.0	120413	83826	-12025	1662.1	1188.6	-78.5
160.5	121244	84419	-12064	1661.9	1183.6	-78.5
161.0	122075	85009	-12103	1661.9	1178.8	-78.5
161.5	122906	85598	-12143	1661.8	1174.0	-78.5
162.0	123737	86184	-12182	1661.7	1169.3	-78.5
162.5	124568	86767	-12221	1661.6	1164.5	-78.5
163.0	125398	87348	-12260	1661.5	1159.7	-78.5
163.5	126229	87927	-12300	1661.4	1154.9	-78.5
164.0	127060	88503	-12339	1661.3	1150.2	-78.5
164.5	127890	89077	-12378	1661.2	1145.4	-78.5
165.0	128721	89648	-12417	1661.1	1140.6	-78.5
165.5	129552	90217	-12457	1661.0	1135.9	-78.5
166.0	130382	90784	-12496	1660.9	1131.1	-78.5
166.5	131212	91349	-12535	1660.8	1126.3	-78.5
167.0	132043	91910	-12574	1660.7	1121.6	-78.5
167.5	132873	92470	-12614	1660.6	1116.8	-78.5
168.0	133703	93027	-12653	1660.5	1112.0	-78.5
168.5	134534	93582	-12692	1660.4	1107.3	-78.5
169.0	135364	94135	-12731	1660.3	1102.5	-78.5
169.5	136194	94685	-12771	1660.2	1097.7	-78.5
170.0	137024	95232	-12810	1660.1	1093.0	-78.5
170.5	137854	95778	-12849	1660.0	1088.2	-78.5
171.0	138684	96320	-12888	1659.9	1083.4	-78.5
171.5	139514	96861	-12928	1659.8	1078.7	-78.5
172.0	140344	97399	-12967	1659.7	1073.9	-78.5
172.5	141174	97935	-13006	1659.6	1069.2	-78.5
173.0	142003	98468	-13045	1659.5	1064.4	-78.5
173.5	142833	98999	-13085	1659.4	1059.6	-78.5
174.0	143663	99528	-13124	1659.3	1054.9	-78.5
174.5	144492	100054	-13163	1659.2	1050.1	-78.5
175.0	145322	100578	-13202	1659.1	1045.4	-78.5
175.5	146151	101100	-13242	1658.9	1040.6	-78.5
176.0	146981	101619	-13281	1658.8	1035.9	-78.5
176.5	147810	102135	-13320	1658.7	1031.1	-78.5
177.0	148640	102650	-13359	1658.6	1026.4	-78.5
177.5	149469	103162	-13399	1658.5	1021.6	-78.5
178.0	150298	103671	-13438	1658.4	1016.9	-78.5
178.5	151127	104179	-13477	1658.3	1012.1	-78.5
179.0	151956	104684	-13516	1658.2	1007.4	-78.5
179.5	152786	105186	-13555	1658.1	1002.6	-78.5

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TABLE V

TIME SEC	SPACE-FIXED-POSITION			SPACE-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
180.0	153615	105686	-13595	1657.9	997.9	-78.4
180.5	154443	106184	-13634	1657.8	993.1	-78.4
181.0	155272	106679	-13673	1657.7	988.4	-78.4
181.5	156101	107172	-13712	1657.6	983.6	-78.4
182.0	156930	107663	-13752	1657.5	978.9	-78.4
182.5	157759	108151	-13791	1657.4	974.2	-78.4
183.0	158587	108637	-13830	1657.3	969.4	-78.4
183.5	159416	109121	-13869	1657.1	964.7	-78.4
184.0	160244	109602	-13908	1657.0	959.9	-78.4
184.5	161073	110081	-13948	1656.9	955.2	-78.4
185.0	161901	110557	-13987	1656.8	950.5	-78.4
185.5	162730	111031	-14026	1656.7	945.7	-78.4
186.0	163558	111503	-14065	1656.5	941.0	-78.4
186.5	164386	111972	-14104	1656.4	936.2	-78.4
187.0	165214	112439	-14144	1656.3	931.5	-78.4
187.5	166043	112904	-14183	1656.2	926.8	-78.4
188.0	166871	113366	-14222	1656.1	922.0	-78.4
188.5	167699	113826	-14261	1655.9	917.3	-78.4
189.0	168527	114283	-14300	1655.8	912.6	-78.4
189.5	169354	114738	-14340	1655.7	907.8	-78.4
190.0	170182	115191	-14379	1655.6	903.1	-78.4
190.5	171010	115641	-14418	1655.4	898.4	-78.4
191.0	171838	116089	-14457	1655.3	893.6	-78.4
191.5	172665	116535	-14496	1655.2	888.9	-78.4
192.0	173493	116978	-14535	1655.1	884.2	-78.4
192.5	174320	117419	-14575	1654.9	879.5	-78.4
193.0	175148	117857	-14614	1654.8	874.7	-78.4
193.5	175975	118294	-14653	1654.7	870.0	-78.4
194.0	176802	118727	-14692	1654.5	865.3	-78.4
194.5	177630	119159	-14731	1654.4	860.5	-78.3
195.0	178457	119588	-14770	1654.3	855.8	-78.3
195.5	179284	120015	-14810	1654.1	851.1	-78.3
196.0	180111	120439	-14849	1654.0	846.4	-78.3
196.5	180938	120861	-14888	1653.9	841.7	-78.3
197.0	181765	121281	-14927	1653.7	836.9	-78.3
197.5	182592	121698	-14966	1653.6	832.2	-78.3
198.0	183419	122113	-15005	1653.5	827.5	-78.3
198.5	184245	122526	-15045	1653.3	822.8	-78.3
199.0	185072	122936	-15084	1653.2	818.0	-78.3
199.5	185898	123344	-15123	1653.1	813.3	-78.3

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TIME SEC	SPACE-FIXED-POSITION			SPACE-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
200.0	186725	123749	-15162	1652.9	808.6	-78.3
200.5	187551	124152	-15201	1652.8	803.9	-78.3
201.0	188378	124553	-15240	1652.7	799.2	-78.3
201.5	189204	124951	-15279	1652.5	794.5	-78.3
202.0	190030	125347	-15319	1652.4	789.7	-78.3
202.5	190856	125741	-15358	1652.2	785.0	-78.3
203.0	191683	126132	-15397	1652.1	780.3	-78.3
203.5	192509	126521	-15436	1652.0	775.6	-78.3
204.0	193334	126908	-15475	1651.8	770.9	-78.3
204.5	194160	127292	-15514	1651.7	766.2	-78.3
205.0	194986	127674	-15553	1651.5	761.5	-78.3
205.5	195812	128054	-15592	1651.4	756.8	-78.3
206.0	196638	128431	-15632	1651.3	752.0	-78.3
206.5	197463	128806	-15671	1651.1	747.3	-78.3
207.0	198289	129178	-15710	1651.0	742.6	-78.2
207.5	199114	129548	-15749	1650.8	737.9	-78.2
208.0	199940	129916	-15788	1650.7	733.2	-78.2
208.5	200765	130282	-15827	1650.5	728.5	-78.2
209.0	201590	130645	-15866	1650.4	723.8	-78.2
209.5	202415	131005	-15905	1650.2	719.1	-78.2
210.0	203240	131364	-15944	1650.1	714.4	-78.2
210.5	204065	131720	-15984	1649.9	709.7	-78.2
211.0	204890	132073	-16023	1649.8	705.0	-78.2
211.5	205715	132425	-16062	1649.6	700.3	-78.2
212.0	206540	132774	-16101	1649.5	695.6	-78.2
212.5	207365	133120	-16140	1649.3	690.9	-78.2
213.0	208189	133465	-16179	1649.2	686.1	-78.2
213.5	209014	133806	-16218	1649.0	681.4	-78.2
214.0	209838	134146	-16257	1648.9	676.7	-78.2
214.5	210663	134483	-16296	1648.7	672.0	-78.2
215.0	211487	134818	-16335	1648.6	667.3	-78.2
215.5	212311	135151	-16374	1648.4	662.6	-78.2
216.0	213135	135481	-16414	1648.3	657.9	-78.2
216.5	213960	135809	-16453	1648.1	653.2	-78.2
217.0	214784	136134	-16492	1648.0	648.5	-78.2
217.5	215607	136457	-16531	1647.8	643.8	-78.1
218.0	216431	136778	-16570	1647.6	639.2	-78.1
218.5	217255	137096	-16609	1647.5	634.5	-78.1
219.0	218079	137412	-16648	1647.3	629.8	-78.1
219.5	218902	137726	-16687	1647.2	625.1	-78.1

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TABLE V

TIME SEC	SPACE-FIXED-POSITION			SPACE-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
220.0	219726	138037	-16726	1647.0	620.4	-78.1
220.5	220549	138346	-16765	1646.9	615.7	-78.1
221.0	221373	138653	-16804	1646.7	611.0	-78.1
221.5	222196	138957	-16843	1646.5	606.3	-78.1
222.0	223019	139259	-16882	1646.4	601.6	-78.1
222.5	223843	139559	-16921	1646.2	596.9	-78.1
223.0	224666	139856	-16960	1646.0	592.2	-78.1
223.5	225489	140151	-16999	1645.9	587.5	-78.1
224.0	226312	140444	-17038	1645.7	582.8	-78.1
224.5	227134	140734	-17077	1645.6	578.1	-78.1
225.0	227957	141022	-17116	1645.4	573.4	-78.1
225.5	228780	141307	-17155	1645.2	568.8	-78.1
226.0	229602	141591	-17194	1645.1	564.1	-78.1
226.5	230425	141871	-17233	1644.9	559.4	-78.1
227.0	231247	142150	-17272	1644.7	554.7	-78.0
227.5	232069	142426	-17311	1644.6	550.0	-78.0
228.0	232892	142700	-17350	1644.4	545.3	-78.0
228.5	233714	142971	-17389	1644.2	540.6	-78.0
229.0	234536	143241	-17428	1644.1	535.9	-78.0
229.5	235358	143507	-17467	1643.9	531.2	-78.0
230.0	236180	143772	-17506	1643.7	526.6	-78.0
230.5	237002	144034	-17545	1643.5	521.9	-78.0
231.0	237823	144294	-17584	1643.4	517.2	-78.0
231.5	238645	144551	-17623	1643.2	512.5	-78.0
232.0	239467	144806	-17662	1643.0	507.8	-78.0
232.5	240288	145059	-17701	1642.8	503.1	-78.0
233.0	241109	145309	-17740	1642.7	498.5	-78.0
233.5	241931	145557	-17779	1642.5	493.8	-78.0
234.0	242752	145803	-17818	1642.3	489.1	-78.0
234.5	243573	146046	-17857	1642.1	484.4	-78.0
235.0	244394	146288	-17896	1642.0	479.7	-78.0
235.5	245215	146526	-17935	1641.8	475.0	-77.9
236.0	246036	146763	-17974	1641.6	470.4	-77.9
236.5	246857	146997	-18013	1641.4	465.7	-77.9
237.0	247677	147228	-18052	1641.3	461.0	-77.9
237.5	248498	147458	-18091	1641.1	456.3	-77.9
238.0	249318	147685	-18130	1640.9	451.6	-77.9
238.5	250139	147909	-18169	1640.7	447.0	-77.9
239.0	250959	148131	-18208	1640.5	442.3	-77.9
239.5	251779	148351	-18247	1640.4	437.6	-77.9

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TIME SEC	SPACE-FIXED-POSITION			SPACE-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
240.0	252599	148569	-18286	1640.2	432.9	-77.9
240.5	253420	148784	-18325	1640.0	428.3	-77.9
241.0	254239	148997	-18364	1639.8	423.6	-77.9
241.5	255059	149208	-18403	1639.6	418.9	-77.9
242.0	255879	149416	-18441	1639.4	414.2	-77.9
242.5	256699	149622	-18480	1639.3	409.6	-77.9
243.0	257518	149826	-18519	1639.1	404.9	-77.9
243.5	258338	150027	-18558	1638.9	400.2	-77.8
244.0	259157	150226	-18597	1638.7	395.5	-77.8
244.5	259977	150423	-18636	1638.5	390.9	-77.8
245.0	260796	150617	-18675	1638.3	386.2	-77.8
245.5	261615	150809	-18714	1638.1	381.5	-77.8
246.0	262434	150998	-18753	1638.0	376.8	-77.8
246.5	263253	151186	-18792	1637.8	372.2	-77.8
247.0	264072	151371	-18830	1637.6	367.5	-77.8
247.5	264890	151553	-18869	1637.4	362.8	-77.8
248.0	265709	151733	-18908	1637.2	358.1	-77.8
248.5	266528	151911	-18947	1637.0	353.5	-77.8
249.0	267346	152087	-18986	1636.8	348.8	-77.8
249.5	268164	152260	-19025	1636.6	344.1	-77.8
250.0	268983	152431	-19064	1636.4	339.5	-77.8
250.5	269801	152600	-19103	1636.2	334.8	-77.8
251.0	270619	152766	-19141	1636.0	330.1	-77.7
251.5	271437	152930	-19180	1635.8	325.5	-77.7
252.0	272255	153091	-19219	1635.6	320.8	-77.7
252.5	273073	153250	-19258	1635.4	316.1	-77.7
253.0	273890	153407	-19297	1635.2	311.4	-77.7
253.5	274708	153562	-19336	1635.1	306.8	-77.7
254.0	275525	153714	-19375	1634.9	302.1	-77.7
254.5	276343	153864	-19413	1634.7	297.4	-77.7
255.0	277160	154012	-19452	1634.5	292.8	-77.7
255.5	277977	154157	-19491	1634.3	288.1	-77.7
256.0	278794	154300	-19530	1634.1	283.4	-77.7
256.5	279611	154440	-19569	1633.9	278.8	-77.7
257.0	280428	154579	-19608	1633.7	274.1	-77.7
257.5	281245	154714	-19646	1633.5	269.4	-77.7
258.0	282061	154848	-19685	1633.3	264.8	-77.7
258.5	282878	154979	-19724	1633.0	260.1	-77.6
259.0	283695	155108	-19763	1632.8	255.4	-77.6
259.5	284511	155234	-19802	1632.6	250.8	-77.6

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TABLE V

TIME SEC	SPACE-FIXED-POSITION			SPACE-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
260.0	285327	155359	-19840	1632.4	246.1	-77.6
260.5	286143	155481	-19879	1632.2	241.4	-77.6
261.0	286959	155600	-19918	1632.0	236.8	-77.6
261.5	287775	155717	-19957	1631.8	232.1	-77.6
262.0	288591	155832	-19996	1631.6	227.5	-77.6
262.5	289407	155945	-20034	1631.4	222.8	-77.6
263.0	290223	156055	-20073	1631.2	218.1	-77.6
263.5	291038	156163	-20112	1631.0	213.5	-77.6
264.0	291854	156269	-20151	1630.8	208.8	-77.6
264.5	292669	156372	-20189	1630.6	204.1	-77.6
265.0	293484	156473	-20228	1630.4	199.5	-77.5
265.5	294299	156571	-20267	1630.1	194.8	-77.5
266.0	295114	156668	-20306	1629.9	190.2	-77.5
266.5	295929	156761	-20344	1629.7	185.5	-77.5
267.0	296744	156853	-20383	1629.5	180.8	-77.5
267.5	297559	156942	-20422	1629.3	176.2	-77.5
268.0	298373	157029	-20461	1629.1	171.5	-77.5
268.5	299188	157114	-20499	1628.9	166.8	-77.5
269.0	300002	157196	-20538	1628.7	162.2	-77.5
269.5	300816	157276	-20577	1628.4	157.5	-77.5
270.0	301631	157353	-20616	1628.2	152.9	-77.5
270.5	302445	157429	-20654	1628.0	148.2	-77.5
271.0	303259	157502	-20693	1627.8	143.5	-77.5
271.5	304072	157572	-20732	1627.6	138.9	-77.4
272.0	304886	157641	-20770	1627.4	134.2	-77.4
272.5	305700	157707	-20809	1627.1	129.6	-77.4
273.0	306513	157770	-20848	1626.9	124.9	-77.4
273.5	307327	157831	-20886	1626.7	120.2	-77.4
274.0	308140	157890	-20925	1626.5	115.6	-77.4
274.5	308953	157947	-20964	1626.3	110.9	-77.4
275.0	309766	158001	-21002	1626.0	106.3	-77.4
275.5	310579	158053	-21041	1625.8	101.6	-77.4
276.0	311392	158103	-21080	1625.6	97.0	-77.4
276.5	312205	158150	-21119	1625.4	92.3	-77.4
277.0	313017	158195	-21157	1625.1	87.6	-77.4
277.5	313830	158238	-21196	1624.9	83.0	-77.4
278.0	314642	158278	-21235	1624.7	78.3	-77.3
278.5	315455	158316	-21273	1624.5	73.7	-77.3
279.0	316267	158352	-21312	1624.2	69.0	-77.3
279.5	317079	158385	-21350	1624.0	64.3	-77.3

TABLE V

TIME SEC	SPACE-FIXED-POSITION			SPACE-FIXED-VELOCITY		
	X M	Y M	Z M	X M/SEC	Y M/SEC	Z M/SEC
280.0	317891	158416	-21389	1623.8	59.7	-77.3
280.5	318703	158445	-21428	1623.6	55.0	-77.3
281.0	319514	158471	-21466	1623.3	50.4	-77.3
281.5	320326	158495	-21505	1623.1	45.7	-77.3
282.0	321138	158517	-21544	1622.9	41.1	-77.3
282.5	321949	158536	-21582	1622.6	36.4	-77.3
283.0	322760	158553	-21621	1622.4	31.8	-77.3
283.5	323571	158568	-21659	1622.2	27.1	-77.3
284.0	324382	158580	-21698	1621.9	22.4	-77.2
284.5	325193	158591	-21737	1621.7	17.8	-77.2
285.0	326004	158598	-21775	1621.5	13.1	-77.2
285.5	326815	158604	-21814	1621.2	8.5	-77.2
286.0	327625	158607	-21852	1621.0	3.8	-77.2
286.5	328436	158607	-21891	1620.8	-0.8	-77.2
287.0	329246	158606	-21930	1620.5	-5.5	-77.2
287.5	330056	158602	-21968	1620.3	-10.2	-77.2
288.0	330866	158596	-22007	1620.1	-14.8	-77.2
288.5	331676	158587	-22045	1619.8	-19.5	-77.2
289.0	332486	158576	-22084	1619.6	-24.1	-77.2
289.5	333296	158563	-22122	1619.4	-28.8	-77.1
290.0	334106	158547	-22161	1619.1	-33.4	-77.1
290.5	334915	158530	-22199	1618.9	-38.1	-77.1
291.0	335724	158509	-22238	1618.6	-42.7	-77.1
291.5	336534	158487	-22277	1618.4	-47.4	-77.1
WATER RELEASE						
292.000	337343	158462	-22315	1618.2	-52.1	-77.1

TABLE VI

TIME SEC	EARTH-FIXED-ACCELERATIONS			SPACE-FIXED-ACCELERATIONS		
	X M/SEC SQ	Y M/SEC SQ	Z M/SEC SQ	X M/SEC SQ	Y M/SEC SQ	Z M/SEC SQ
FIRST MOTION						
0.100	0.01	1.56	-0.12	0.01	1.54	-0.14
LIFT OFF SIGNAL						
0.330	0.01	1.60	-0.10	0.01	1.57	-0.11
0.5	0.01	1.62	-0.08	0.00	1.60	-0.09
1.0	-0.00	1.69	-0.04	-0.00	1.66	-0.05
1.5	-0.01	1.75	-0.01	-0.01	1.72	-0.02
2.0	-0.01	1.80	0.01	-0.01	1.77	-0.01
2.5	-0.01	1.85	0.02	-0.01	1.82	0.00
3.0	-0.01	1.90	0.02	-0.01	1.87	0.01
3.5	-0.01	1.94	0.02	-0.01	1.91	0.00
4.0	-0.01	1.98	0.01	-0.01	1.95	-0.00
4.5	-0.01	2.02	0.00	-0.01	1.99	-0.01
5.0	-0.00	2.06	-0.01	-0.00	2.03	-0.02
5.5	-0.00	2.10	-0.02	-0.00	2.07	-0.03
6.0	0.00	2.13	-0.03	0.00	2.11	-0.04
6.5	0.00	2.17	-0.04	0.00	2.14	-0.05
7.0	0.00	2.21	-0.05	0.00	2.18	-0.06
7.5	0.00	2.25	-0.05	0.01	2.22	-0.07
8.0	0.01	2.29	-0.06	0.01	2.26	-0.07
8.5	0.01	2.33	-0.06	0.01	2.30	-0.08
9.0	0.01	2.37	-0.06	0.01	2.34	-0.08
9.5	0.01	2.41	-0.06	0.01	2.38	-0.08
10.0	0.01	2.45	-0.06	0.01	2.42	-0.08
10.5	0.00	2.49	-0.06	0.01	2.46	-0.07
11.0	0.00	2.53	-0.05	0.01	2.50	-0.07
11.5	0.00	2.57	-0.05	0.00	2.55	-0.06
12.0	0.00	2.61	-0.04	0.00	2.59	-0.06
12.5	0.00	2.66	-0.04	0.00	2.63	-0.05
13.0	-0.00	2.70	-0.03	0.00	2.67	-0.04
13.5	-0.00	2.74	-0.02	0.00	2.72	-0.04
14.0	-0.00	2.78	-0.02	0.00	2.76	-0.03
14.5	-0.00	2.83	-0.01	0.00	2.80	-0.03
15.0	-0.00	2.87	-0.01	0.00	2.84	-0.02
15.5	-0.00	2.91	-0.00	0.00	2.88	-0.02
16.0	-0.00	2.95	-0.00	0.00	2.92	-0.02
16.5	-0.00	2.99	0.00	0.00	2.96	-0.01
17.0	-0.00	3.03	0.00	0.00	3.00	-0.01

TABLE VI

TIME SEC	EARTH-FIXED-ACCELERATIONS			SPACE-FIXED-ACCELERATIONS		
	X M/SEC SQ	Y M/SEC SQ	Z M/SEC SQ	X M/SEC SQ	Y M/SEC SQ	Z M/SEC SQ
17.5	0.00	3.07	-0.00	0.01	3.04	-0.02
18.0	0.00	3.11	-0.00	0.01	3.08	-0.02
18.5	0.01	3.14	-0.01	0.01	3.12	-0.02
19.0	0.01	3.18	-0.01	0.02	3.15	-0.03
19.5	0.01	3.22	-0.02	0.02	3.19	-0.03
20.0	0.02	3.25	-0.03	0.03	3.23	-0.04
20.5	0.02	3.29	-0.03	0.03	3.27	-0.05
21.0	0.03	3.33	-0.04	0.04	3.30	-0.06
21.5	0.04	3.36	-0.05	0.04	3.34	-0.07
22.0	0.04	3.40	-0.06	0.05	3.37	-0.08
22.5	0.05	3.44	-0.07	0.06	3.41	-0.09
23.0	0.06	3.47	-0.08	0.07	3.45	-0.10
23.5	0.07	3.51	-0.09	0.08	3.49	-0.10
24.0	0.07	3.55	-0.09	0.08	3.52	-0.11
24.5	0.08	3.59	-0.10	0.09	3.56	-0.12
25.0	0.09	3.63	-0.10	0.10	3.60	-0.12
25.5	0.10	3.67	-0.11	0.11	3.65	-0.12
26.0	0.11	3.71	-0.11	0.12	3.69	-0.12
26.5	0.12	3.76	-0.10	0.13	3.73	-0.12
27.0	0.13	3.80	-0.10	0.14	3.78	-0.12
27.5	0.14	3.85	-0.09	0.15	3.82	-0.11
28.0	0.15	3.90	-0.08	0.16	3.87	-0.10
28.5	0.15	3.95	-0.07	0.17	3.92	-0.09
29.0	0.16	4.00	-0.06	0.18	3.97	-0.07
29.5	0.17	4.05	-0.04	0.19	4.02	-0.06
30.0	0.18	4.10	-0.03	0.19	4.08	-0.04
30.5	0.19	4.16	-0.01	0.20	4.13	-0.03
31.0	0.19	4.21	0.01	0.21	4.19	-0.01
31.5	0.20	4.27	0.02	0.22	4.24	0.00
32.0	0.21	4.32	0.03	0.22	4.29	0.02
32.5	0.21	4.37	0.04	0.23	4.35	0.02
33.0	0.22	4.42	0.05	0.24	4.40	0.03
33.5	0.23	4.47	0.04	0.25	4.45	0.02
34.0	0.23	4.52	0.03	0.25	4.49	0.01
34.5	0.24	4.56	-0.00	0.26	4.53	-0.02
35.0	0.25	4.59	-0.04	0.27	4.57	-0.06
35.5	0.25	4.59	-0.10	0.28	4.56	-0.12
36.0	0.25	4.64	-0.11	0.27	4.61	-0.13
36.5	0.25	4.68	-0.12	0.27	4.65	-0.14
37.0	0.25	4.72	-0.13	0.27	4.70	-0.15

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TABLE VI

TIME SEC	EARTH-FIXED-ACCELERATIONS			SPACE-FIXED-ACCELERATIONS		
	X M/SEC SQ	Y M/SEC SQ	Z M/SEC SQ	X M/SEC SQ	Y M/SEC SQ	Z M/SEC SQ
37.5	0.26	4.77	-0.13	0.28	4.74	-0.15
38.0	0.27	4.82	-0.13	0.29	4.79	-0.15
38.5	0.28	4.87	-0.13	0.31	4.84	-0.15
39.0	0.30	4.92	-0.12	0.33	4.89	-0.14
39.5	0.33	4.98	-0.12	0.36	4.95	-0.13
40.0	0.37	5.03	-0.11	0.40	5.00	-0.13
40.5	0.41	5.09	-0.10	0.43	5.06	-0.12
41.0	0.44	5.14	-0.09	0.47	5.12	-0.11
41.5	0.48	5.20	-0.09	0.51	5.17	-0.11
42.0	0.51	5.25	-0.09	0.54	5.22	-0.11
42.5	0.55	5.30	-0.09	0.58	5.28	-0.11
43.0	0.58	5.36	-0.09	0.61	5.33	-0.11
43.5	0.61	5.41	-0.09	0.64	5.38	-0.11
44.0	0.65	5.46	-0.09	0.68	5.44	-0.11
44.5	0.68	5.52	-0.09	0.72	5.49	-0.11
45.0	0.72	5.57	-0.09	0.76	5.54	-0.11
45.5	0.76	5.63	-0.09	0.80	5.60	-0.11
46.0	0.81	5.68	-0.09	0.84	5.65	-0.11
46.5	0.85	5.73	-0.09	0.89	5.70	-0.11
47.0	0.90	5.79	-0.08	0.93	5.76	-0.11
47.5	0.95	5.84	-0.08	0.98	5.81	-0.11
48.0	0.99	5.90	-0.08	1.03	5.87	-0.10
48.5	1.05	5.96	-0.08	1.08	5.92	-0.10
49.0	1.10	6.01	-0.07	1.14	5.98	-0.10
49.5	1.15	6.07	-0.07	1.19	6.04	-0.09
50.0	1.21	6.13	-0.07	1.25	6.09	-0.09
50.5	1.26	6.18	-0.06	1.30	6.15	-0.09
51.0	1.32	6.24	-0.06	1.36	6.21	-0.08
51.5	1.38	6.30	-0.05	1.42	6.27	-0.08
52.0	1.44	6.36	-0.05	1.48	6.32	-0.07
52.5	1.50	6.41	-0.04	1.54	6.38	-0.07
53.0	1.56	6.47	-0.04	1.60	6.44	-0.06
53.5	1.62	6.53	-0.03	1.67	6.50	-0.06
54.0	1.69	6.59	-0.02	1.73	6.55	-0.05
54.5	1.75	6.65	-0.02	1.80	6.61	-0.05
55.0	1.82	6.70	-0.01	1.86	6.67	-0.04
55.5	1.88	6.76	-0.01	1.93	6.72	-0.03
56.0	1.95	6.81	0.00	2.00	6.78	-0.03
56.5	2.02	6.87	0.01	2.07	6.83	-0.02
57.0	2.09	6.92	0.01	2.14	6.88	-0.02

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TABLE VI

TIME SEC	EARTH-FIXED-ACCELERATIONS			SPACE-FIXED-ACCELERATIONS		
	X M/SEC SQ	Y M/SEC SQ	Z M/SEC SQ	X M/SEC SQ	Y M/SEC SQ	Z M/SEC SQ
57.5	2.16	6.97	0.02	2.22	6.93	-0.01
58.0	2.24	7.02	0.03	2.29	6.98	-0.00
58.5	2.31	7.06	0.03	2.36	7.03	0.00
59.0	2.38	7.11	0.04	2.44	7.07	0.01
59.5	2.46	7.15	0.04	2.52	7.11	0.01
60.0	2.54	7.19	0.05	2.59	7.15	0.02
60.5	2.61	7.22	0.05	2.67	7.18	0.02
61.0	2.69	7.26	0.06	2.75	7.22	0.03
61.5	2.77	7.29	0.06	2.83	7.25	0.03
62.0	2.89	7.32	0.07	2.95	7.27	0.04
62.5	3.01	7.35	0.09	3.07	7.31	0.05
63.0	3.09	7.39	0.11	3.15	7.35	0.08
63.5	3.12	7.45	0.12	3.18	7.40	0.09
64.0	3.19	7.48	0.10	3.25	7.44	0.06
64.5	3.33	7.50	0.11	3.40	7.46	0.07
65.0	3.42	7.53	0.04	3.48	7.49	0.00
65.5	3.41	7.58	0.06	3.48	7.53	0.02
66.0	3.51	7.60	0.10	3.57	7.55	0.06
66.5	3.67	7.60	0.15	3.74	7.55	0.11
67.0	3.78	7.61	0.16	3.84	7.56	0.12
67.5	3.81	7.62	0.14	3.88	7.57	0.10
68.0	3.89	7.62	0.13	3.96	7.57	0.09
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MACH 1						
68.100	3.92	7.62	0.12	3.99	7.57	0.08
68.5	3.97	7.62	0.09	4.04	7.57	0.05
69.0	4.07	7.60	0.08	4.15	7.55	0.04
69.5	4.26	7.54	0.10	4.33	7.49	0.06
70.0	4.27	7.53	0.02	4.34	7.48	-0.02
70.5	4.29	7.53	-0.00	4.36	7.48	-0.05
71.0	4.40	7.56	0.04	4.48	7.51	-0.01
71.5	4.45	7.62	-0.04	4.53	7.56	-0.08
72.0	4.51	7.69	0.08	4.58	7.64	0.04
72.5	4.58	7.76	0.09	4.66	7.71	0.04
73.0	4.62	7.85	0.07	4.70	7.79	0.03
73.5	4.67	7.95	0.11	4.75	7.89	0.06
74.0	4.80	8.02	0.11	4.88	7.96	0.07
74.5	4.92	8.10	0.11	5.00	8.04	0.06
75.0	5.01	8.20	0.15	5.09	8.14	0.10
75.5	5.20	8.26	0.16	5.28	8.20	0.11

TABLE VI

TIME SEC	EARTH-FIXED-ACCELERATIONS			SPACE-FIXED-ACCELERATIONS		
	X M/SEC SQ	Y M/SEC SQ	Z M/SEC SQ	X M/SEC SQ	Y M/SEC SQ	Z M/SEC SQ
76.0	5.21	8.39	0.12	5.30	8.33	0.07
76.5	5.35	8.48	0.12	5.44	8.41	0.07
77.0	5.46	8.58	0.18	5.55	8.52	0.13
77.5	5.58	8.68	0.17	5.67	8.61	0.12
78.0	5.70	8.78	0.26	5.79	8.71	0.21
78.5	5.85	8.79	0.15	5.94	8.72	0.10
MAXIMUM DYNAMIC PRESSURE						
78.600	5.89	8.76	0.15	5.98	8.69	0.09
79.0	6.07	8.73	0.11	6.16	8.66	0.06
79.5	6.21	8.82	0.08	6.30	8.75	0.03
80.0	6.33	8.95	0.06	6.42	8.88	0.00
80.5	6.42	9.08	0.03	6.52	9.01	-0.03
81.0	6.53	9.19	-0.02	6.63	9.11	-0.08
81.5	6.66	9.26	-0.08	6.75	9.19	-0.14
82.0	6.78	9.33	-0.13	6.88	9.26	-0.19
82.5	6.90	9.42	-0.14	7.00	9.34	-0.20
83.0	7.00	9.52	-0.12	7.10	9.44	-0.18
83.5	7.08	9.63	-0.08	7.19	9.55	-0.14
84.0	7.17	9.77	-0.02	7.28	9.69	-0.08
84.5	7.26	9.91	0.03	7.37	9.83	-0.04
85.0	7.35	10.05	0.05	7.45	9.97	-0.01
85.5	7.45	10.17	0.06	7.56	10.09	-0.01
86.0	7.58	10.27	0.04	7.69	10.19	-0.02
86.5	7.73	10.36	0.02	7.84	10.27	-0.05
87.0	7.88	10.43	-0.01	8.00	10.34	-0.08
87.5	8.03	10.49	-0.05	8.15	10.40	-0.12
88.0	8.17	10.56	-0.07	8.29	10.47	-0.14
88.5	8.30	10.65	-0.07	8.42	10.56	-0.14
89.0	8.42	10.77	-0.04	8.54	10.67	-0.11
89.5	8.53	10.90	-0.00	8.65	10.80	-0.08
90.0	8.63	11.02	0.02	8.76	10.92	-0.06
90.5	8.74	11.13	0.02	8.87	11.03	-0.06
91.0	8.86	11.24	0.01	8.99	11.14	-0.07
91.5	9.00	11.34	0.00	9.13	11.23	-0.08
92.0	9.16	11.43	0.00	9.29	11.32	-0.08
92.5	9.34	11.52	0.00	9.47	11.41	-0.08
93.0	9.52	11.60	0.01	9.65	11.49	-0.08
93.5	9.69	11.68	0.00	9.83	11.57	-0.08
94.0	9.85	11.76	-0.01	9.99	11.64	-0.10

TABLE VI

TIME SEC	EARTH-FIXED-ACCELERATIONS			SPACE-FIXED-ACCELERATIONS		
	X M/SEC SQ	Y M/SEC SQ	Z M/SEC SQ	X M/SEC SQ	Y M/SEC SQ	Z M/SEC SQ
94.5	10.00	11.85	-0.01	10.14	11.73	-0.10
95.0	10.14	11.94	-0.01	10.27	11.83	-0.10
95.5	10.27	12.03	-0.00	10.42	11.91	-0.10
96.0	10.42	12.11	-0.01	10.57	11.99	-0.11
96.5	10.59	12.18	-0.03	10.73	12.05	-0.12
97.0	10.77	12.24	-0.03	10.91	12.12	-0.12
97.5	10.95	12.31	-0.02	11.10	12.18	-0.11
98.0	11.13	12.39	0.01	11.28	12.26	-0.09
98.5	11.29	12.48	0.03	11.44	12.35	-0.07
99.0	11.45	12.55	0.03	11.60	12.42	-0.07
99.5	11.62	12.63	0.02	11.77	12.49	-0.08
100.0	11.78	12.69	0.03	11.94	12.55	-0.08
100.5	11.95	12.76	0.03	12.11	12.62	-0.07
101.0	12.12	12.83	0.04	12.28	12.69	-0.07
101.5	12.28	12.90	0.05	12.44	12.75	-0.06
102.0	12.45	12.97	0.06	12.62	12.82	-0.05
102.5	12.64	13.03	0.07	12.80	12.89	-0.04
103.0	12.83	13.10	0.07	13.00	12.95	-0.04
103.5	13.03	13.17	0.08	13.20	13.01	-0.04
104.0	13.23	13.23	0.07	13.40	13.07	-0.05
104.5	13.44	13.29	0.05	13.61	13.13	-0.07
105.0	13.66	13.34	0.04	13.83	13.17	-0.08
105.5	13.88	13.38	0.04	14.05	13.21	-0.08
106.0	14.11	13.42	0.06	14.28	13.25	-0.07
106.5	14.33	13.46	0.09	14.51	13.29	-0.04
107.0	14.54	13.51	0.12	14.72	13.33	-0.01
107.5	14.74	13.54	0.12	14.92	13.36	-0.01
108.0	14.94	13.58	0.11	15.12	13.40	-0.02
108.5	15.14	13.62	0.11	15.33	13.44	-0.02
109.0	15.34	13.67	0.12	15.53	13.49	-0.02
109.5	15.54	13.71	0.11	15.73	13.53	-0.03
110.0	15.74	13.75	0.09	15.93	13.56	-0.04
110.5	15.95	13.79	0.08	16.14	13.60	-0.06
111.0	16.15	13.83	0.07	16.34	13.63	-0.07
111.5	16.37	13.87	0.09	16.56	13.67	-0.06
112.0	16.61	13.90	0.12	16.80	13.70	-0.03
112.5	16.86	13.93	0.14	17.06	13.72	-0.00
113.0	17.11	13.96	0.16	17.31	13.75	0.01
113.5	17.36	13.97	0.13	17.56	13.76	-0.02
114.0	17.61	13.99	0.08	17.81	13.77	-0.07

TABLE VI

TIME SEC	EARTH-FIXED-ACCELERATIONS			SPACE-FIXED-ACCELERATIONS		
	X M/SEC SQ	Y M/SEC SQ	Z M/SEC SQ	X M/SEC SQ	Y M/SEC SQ	Z M/SEC SQ
114.5	17.86	13.99	0.03	18.06	13.77	-0.13
115.0	18.12	14.00	-0.01	18.32	13.78	-0.17
115.5	18.36	14.02	-0.02	18.57	13.80	-0.18
116.0	18.59	14.07	-0.00	18.79	13.84	-0.17
116.5	18.79	14.13	0.03	18.99	13.89	-0.14
117.0	18.96	14.21	0.07	19.17	13.97	-0.10
117.5	19.14	14.29	0.11	19.35	14.05	-0.06
118.0	19.31	14.37	0.15	19.53	14.13	-0.02
118.5	19.50	14.44	0.16	19.71	14.20	-0.02
119.0	19.68	14.50	0.13	19.90	14.25	-0.05
119.5	19.86	14.56	0.08	20.08	14.31	-0.10
120.0	20.05	14.62	0.04	20.27	14.37	-0.14
120.5	20.26	14.68	0.03	20.49	14.42	-0.16
121.0	20.50	14.74	0.05	20.72	14.48	-0.13
121.5	20.74	14.81	0.12	20.97	14.54	-0.07
122.0	20.97	14.90	0.19	21.20	14.63	-0.00
122.5	21.16	14.98	0.23	21.39	14.70	0.03
123.0	21.34	15.05	0.20	21.57	14.77	0.01
123.5	21.51	15.11	0.14	21.75	14.83	-0.05
124.0	21.70	15.16	0.08	21.93	14.88	-0.12
124.5	21.91	15.21	0.04	22.15	14.93	-0.16
125.0	22.14	15.28	0.03	22.38	14.98	-0.18
125.5	22.38	15.34	0.05	22.62	15.04	-0.15
126.0	22.62	15.41	0.11	22.86	15.11	-0.10
126.5	22.86	15.50	0.17	23.11	15.20	-0.04
127.0	23.10	15.58	0.23	23.35	15.28	0.02
127.5	23.34	15.67	0.27	23.59	15.35	0.05
128.0	23.54	15.74	0.26	23.79	15.42	0.04
128.5	23.73	15.82	0.20	23.98	15.50	-0.02
129.0	23.91	15.89	0.13	24.16	15.56	-0.10
129.5	24.10	15.96	0.06	24.36	15.63	-0.17
130.0	24.31	16.05	0.04	24.57	15.72	-0.18
130.5	24.57	16.11	0.07	24.83	15.77	-0.16
131.0	24.79	16.20	0.10	25.06	15.86	-0.14
131.5	24.92	16.38	0.12	25.19	16.04	-0.12
132.0	25.05	16.56	0.10	25.32	16.21	-0.14
132.5	25.19	16.73	0.10	25.47	16.38	-0.14
133.0	25.34	16.89	0.12	25.62	16.54	-0.13
133.5	25.51	17.05	0.15	25.78	16.69	-0.10
134.0	25.66	17.22	0.12	25.94	16.86	-0.13

TABLE VI

TIME SEC	EARTH-FIXED-ACCELERATIONS						SPACE-FIXED-ACCELERATIONS					
	X M/SEC SQ		Y M/SEC SQ		Z M/SEC SQ		X M/SEC SQ		Y M/SEC SQ		Z M/SEC SQ	
134.5	25.81		17.40		0.11		26.10		17.03		-0.14	
135.0	25.97		17.58		0.09		26.26		17.21		-0.16	
135.5	26.13		17.76		0.03		26.42		17.39		-0.23	
136.0	26.30		17.95		-0.01		26.60		17.58		-0.27	
136.5	26.48		18.14		-0.05		26.78		17.76		-0.31	
137.0	26.65		18.33		-0.03		26.95		17.95		-0.30	
137.5	26.84		18.52		-0.02		27.14		18.13		-0.29	
138.0	27.01		18.72		-0.01		27.32		18.32		-0.28	
138.5	27.19		18.90		0.03		27.50		18.51		-0.24	
139.0	27.36		19.10		0.00		27.67		18.70		-0.28	
139.5	27.53		19.30		0.03		27.85		18.89		-0.25	
140.0	27.70		19.49		0.03		28.02		19.08		-0.25	
140.5	27.88		19.68		0.04		28.21		19.26		-0.25	
141.0	28.05		19.87		0.05		28.38		19.45		-0.24	
141.5	28.23		20.04		0.04		28.56		19.62		-0.25	
INBOARD ENGINE CUTOFF												
141.660	28.28		20.10		0.04		28.61		19.67		-0.25	
MAXIMUM LONGITUDINAL ACCELERATION												
141.800	28.33		20.14		0.04		28.66		19.72		-0.26	
BEGIN INBOARD ENGINE THRUST DECAY												
141.800	28.33		20.14		0.04		28.66		19.72		-0.26	
142.0	16.33		7.76		0.13		16.56		7.44		-0.09	
142.5	14.88		6.29		0.13		15.09		5.98		-0.07	
143.0	14.96		6.34		0.15		15.17		6.03		-0.06	
143.5	14.33		5.73		0.17		14.54		5.43		-0.04	
144.0	14.03		5.41		0.14		14.24		5.11		-0.06	
END INBOARD ENGINE THRUST DECAY												
144.250	14.03		5.43		0.16		14.24		5.13		-0.04	
144.5	14.04		5.45		0.17		14.25		5.15		-0.04	
145.0	14.07		5.48		0.13		14.28		5.18		-0.07	
145.5	14.10		5.52		0.15		14.31		5.22		-0.06	
146.0	14.13		5.56		0.17		14.34		5.25		-0.04	
146.5	14.17		5.59		0.17		14.39		5.28		-0.04	
147.0	14.21		5.64		0.15		14.42		5.32		-0.06	
147.5	14.27		5.67		0.15		14.48		5.36		-0.06	
148.0	14.31		5.74		0.14		14.52		5.42		-0.07	

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TABLE VI

TIME SEC	EARTH-FIXED-ACCELERATIONS			SPACE-FIXED-ACCELERATIONS		
	X M/SEC SQ	Y M/SEC SQ	Z M/SEC SQ	X M/SEC SQ	Y M/SEC SQ	Z M/SEC SQ
148.5	14.37	5.79	0.19	14.59	5.47	-0.03
149.0	14.33	5.82	0.10	14.55	5.50	-0.11
OUTBOARD ENGINE CUTOFF						
149.090	14.27	5.76	0.12	14.48	5.44	-0.09
BEGIN OUTBOARD ENGINE THRUST DECAY						
149.200	12.34	3.72	0.22	12.54	3.42	0.02
MAXIMUM EARTH-FIXED VELOCITY						
149.500	4.71	-4.14	0.27	4.83	-4.37	0.12
150.0	1.28	-7.72	0.32	1.37	-7.92	0.20
150.5	0.60	-8.40	0.30	0.68	-8.59	0.18
151.0	-0.03	-9.08	0.32	0.04	-9.27	0.20
151.5	-0.14	-9.27	0.40	-0.07	-9.45	0.29
152.0	-0.24	-9.28	0.33	-0.17	-9.46	0.22
152.5	-0.21	-9.32	0.38	-0.14	-9.51	0.27
END OUTBOARD ENGINE THRUST DECAY						
152.780	-0.24	-9.29	0.34	-0.17	-9.48	0.22
153.0	-0.20	-9.33	0.37	-0.13	-9.52	0.26
153.5	-0.35	-9.39	0.30	-0.28	-9.58	0.19
RETRO ROCKETS IGNITE						
153.700	-0.78	-9.96	0.34	-0.72	-10.14	0.24
154.0	-3.63	-12.89	0.35	-3.60	-13.04	0.27
154.5	-3.67	-12.88	0.32	-3.64	-13.03	0.23
155.0	-3.67	-12.81	0.33	-3.64	-12.96	0.24
155.5	-3.09	-12.31	0.34	-3.05	-12.46	0.25
RETRO ROCKETS BURNOUT						
155.900	-0.68	-9.82	0.34	-0.62	-9.99	0.24
156.0	-0.60	-9.69	0.34	-0.54	-9.86	0.23
156.5	-0.43	-9.50	0.34	-0.37	-9.68	0.23
157.0	-0.40	-9.52	0.33	-0.34	-9.70	0.22
157.5	-0.42	-9.50	0.31	-0.36	-9.68	0.20
158.0	-0.41	-9.50	0.30	-0.36	-9.68	0.19
158.5	-0.41	-9.51	0.34	-0.35	-9.69	0.23
159.0	-0.42	-9.49	0.34	-0.36	-9.67	0.23
159.5	-0.33	-9.28	0.20	-0.27	-9.46	0.09

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TABLE VI

TIME SEC	EARTH-FIXED-ACCELERATIONS						SPACE-FIXED-ACCELERATIONS					
	X M/SEC SQ		Y M/SEC SQ		Z M/SEC SQ		X M/SEC SQ		Y M/SEC SQ		Z M/SEC SQ	
160.0	-0.11		-9.44		0.06		-0.06		-9.62		-0.05	
160.5	-0.24		-9.38		0.11		-0.18		-9.56		0.00	
161.0	-0.24		-9.38		0.11		-0.18		-9.56		0.00	
161.5	-0.24		-9.37		0.11		-0.19		-9.56		0.00	
162.0	-0.24		-9.37		0.11		-0.19		-9.55		0.00	
162.5	-0.24		-9.37		0.11		-0.19		-9.55		0.00	
163.0	-0.24		-9.37		0.11		-0.19		-9.55		0.00	
163.5	-0.24		-9.37		0.11		-0.19		-9.55		0.00	
164.0	-0.24		-9.36		0.11		-0.19		-9.55		0.00	
164.5	-0.24		-9.36		0.11		-0.19		-9.54		0.00	
165.0	-0.24		-9.36		0.11		-0.19		-9.54		0.00	
165.5	-0.24		-9.36		0.11		-0.19		-9.54		0.00	
166.0	-0.24		-9.36		0.11		-0.20		-9.54		0.00	
166.5	-0.24		-9.36		0.11		-0.20		-9.54		0.00	
167.0	-0.24		-9.35		0.11		-0.20		-9.54		0.00	
167.5	-0.24		-9.35		0.11		-0.20		-9.53		0.00	
168.0	-0.24		-9.35		0.11		-0.20		-9.53		0.00	
168.5	-0.24		-9.35		0.11		-0.20		-9.53		0.01	
169.0	-0.24		-9.35		0.11		-0.20		-9.53		0.01	
169.5	-0.24		-9.35		0.11		-0.20		-9.53		0.01	
170.0	-0.24		-9.34		0.11		-0.20		-9.52		0.01	
170.5	-0.24		-9.34		0.11		-0.21		-9.52		0.01	
171.0	-0.24		-9.34		0.11		-0.21		-9.52		0.01	
171.5	-0.24		-9.34		0.11		-0.21		-9.52		0.01	
172.0	-0.24		-9.34		0.11		-0.21		-9.52		0.01	
172.5	-0.24		-9.34		0.11		-0.21		-9.52		0.01	
173.0	-0.24		-9.33		0.11		-0.21		-9.51		0.01	
173.5	-0.24		-9.33		0.11		-0.21		-9.51		0.01	
174.0	-0.24		-9.33		0.11		-0.21		-9.51		0.01	
174.5	-0.24		-9.33		0.11		-0.21		-9.51		0.01	
175.0	-0.24		-9.33		0.11		-0.22		-9.51		0.01	
175.5	-0.24		-9.33		0.11		-0.22		-9.51		0.01	
176.0	-0.24		-9.32		0.11		-0.22		-9.51		0.01	
176.5	-0.24		-9.32		0.11		-0.22		-9.50		0.01	
177.0	-0.24		-9.32		0.11		-0.22		-9.50		0.01	
177.5	-0.24		-9.32		0.11		-0.22		-9.50		0.01	
178.0	-0.25		-9.32		0.11		-0.22		-9.50		0.01	
178.5	-0.25		-9.32		0.11		-0.22		-9.50		0.01	
179.0	-0.25		-9.31		0.11		-0.23		-9.50		0.01	
179.5	-0.25		-9.31		0.11		-0.23		-9.49		0.01	

TABLE VI

TIME SEC	EARTH-FIXED-ACCELERATIONS			SPACE-FIXED-ACCELERATIONS		
	X M/SEC SQ	Y M/SEC SQ	Z M/SEC SQ	X M/SEC SQ	Y M/SEC SQ	Z M/SEC SQ
180.0	-0.25	-9.31	0.11	-0.23	-9.49	0.01
180.5	-0.25	-9.31	0.11	-0.23	-9.49	0.01
181.0	-0.25	-9.31	0.11	-0.23	-9.49	0.01
181.5	-0.25	-9.31	0.11	-0.23	-9.49	0.01
182.0	-0.25	-9.31	0.11	-0.23	-9.49	0.01
182.5	-0.25	-9.30	0.11	-0.23	-9.48	0.01
183.0	-0.25	-9.30	0.11	-0.23	-9.48	0.01
183.5	-0.25	-9.30	0.11	-0.24	-9.48	0.01
184.0	-0.25	-9.30	0.11	-0.24	-9.48	0.01
184.5	-0.25	-9.30	0.11	-0.24	-9.48	0.01
185.0	-0.25	-9.30	0.11	-0.24	-9.48	0.01
185.5	-0.25	-9.30	0.11	-0.24	-9.48	0.01
186.0	-0.25	-9.29	0.11	-0.24	-9.47	0.01
186.5	-0.25	-9.29	0.11	-0.24	-9.47	0.01
187.0	-0.25	-9.29	0.11	-0.24	-9.47	0.01
187.5	-0.25	-9.29	0.11	-0.24	-9.47	0.01
188.0	-0.25	-9.29	0.11	-0.25	-9.47	0.01
188.5	-0.25	-9.29	0.11	-0.25	-9.47	0.01
189.0	-0.25	-9.29	0.11	-0.25	-9.47	0.01
189.5	-0.25	-9.28	0.11	-0.25	-9.46	0.01
190.0	-0.25	-9.28	0.11	-0.25	-9.46	0.01
190.5	-0.25	-9.28	0.11	-0.25	-9.46	0.01
191.0	-0.25	-9.28	0.11	-0.25	-9.46	0.01
191.5	-0.25	-9.28	0.11	-0.25	-9.46	0.01
192.0	-0.25	-9.28	0.11	-0.26	-9.46	0.01
192.5	-0.25	-9.28	0.11	-0.26	-9.46	0.01
193.0	-0.25	-9.27	0.11	-0.26	-9.45	0.01
193.5	-0.25	-9.27	0.11	-0.26	-9.45	0.01
194.0	-0.25	-9.27	0.11	-0.26	-9.45	0.01
194.5	-0.25	-9.27	0.11	-0.26	-9.45	0.01
195.0	-0.25	-9.27	0.11	-0.26	-9.45	0.01
195.5	-0.26	-9.27	0.11	-0.26	-9.45	0.01
196.0	-0.26	-9.27	0.11	-0.26	-9.45	0.01
196.5	-0.26	-9.27	0.11	-0.27	-9.45	0.01
197.0	-0.26	-9.26	0.11	-0.27	-9.44	0.01
197.5	-0.26	-9.26	0.11	-0.27	-9.44	0.01
198.0	-0.26	-9.26	0.11	-0.27	-9.44	0.01
198.5	-0.26	-9.26	0.10	-0.27	-9.44	0.01
199.0	-0.26	-9.26	0.10	-0.27	-9.44	0.01
199.5	-0.26	-9.26	0.10	-0.27	-9.44	0.01

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TABLE VI

TIME SEC	EARTH-FIXED-ACCELERATIONS						SPACE-FIXED-ACCELERATIONS					
	X M/SEC	Y M/SEC	Z M/SEC	X M/SEC	Y M/SEC	Z M/SEC	X M/SEC	Y M/SEC	Z M/SEC	X M/SEC	Y M/SEC	Z M/SEC
SEC	SQ	SQ	SQ	SQ	SQ	SQ	SQ	SQ	SQ	SQ	SQ	SQ
200.0	-0.26	-9.26	0.10	-0.27	-9.44	0.01						
200.5	-0.26	-9.26	0.10	-0.27	-9.43	0.01						
201.0	-0.26	-9.25	0.10	-0.28	-9.43	0.01						
201.5	-0.26	-9.25	0.10	-0.28	-9.43	0.01						
202.0	-0.26	-9.25	0.10	-0.28	-9.43	0.01						
202.5	-0.26	-9.25	0.10	-0.28	-9.43	0.01						
203.0	-0.26	-9.25	0.10	-0.28	-9.43	0.01						
203.5	-0.26	-9.25	0.10	-0.28	-9.43	0.01						
204.0	-0.26	-9.25	0.10	-0.28	-9.43	0.01						
204.5	-0.26	-9.25	0.10	-0.28	-9.42	0.01						
205.0	-0.26	-9.24	0.10	-0.28	-9.42	0.01						
205.5	-0.26	-9.24	0.10	-0.29	-9.42	0.01						
206.0	-0.26	-9.24	0.10	-0.29	-9.42	0.01						
206.5	-0.26	-9.24	0.10	-0.29	-9.42	0.01						
207.0	-0.26	-9.24	0.10	-0.29	-9.42	0.01						
207.5	-0.26	-9.24	0.10	-0.29	-9.42	0.01						
208.0	-0.26	-9.24	0.10	-0.29	-9.42	0.01						
208.5	-0.26	-9.24	0.10	-0.29	-9.42	0.01						
209.0	-0.26	-9.24	0.10	-0.29	-9.41	0.01						
209.5	-0.26	-9.23	0.10	-0.30	-9.41	0.01						
210.0	-0.26	-9.23	0.10	-0.30	-9.41	0.01						
210.5	-0.26	-9.23	0.10	-0.30	-9.41	0.01						
211.0	-0.26	-9.23	0.10	-0.30	-9.41	0.01						
211.5	-0.26	-9.23	0.10	-0.30	-9.41	0.01						
212.0	-0.26	-9.23	0.10	-0.30	-9.41	0.01						
212.5	-0.26	-9.23	0.10	-0.30	-9.41	0.01						
213.0	-0.26	-9.23	0.10	-0.30	-9.40	0.01						
213.5	-0.27	-9.23	0.10	-0.30	-9.40	0.01						
214.0	-0.27	-9.22	0.10	-0.31	-9.40	0.01						
214.5	-0.27	-9.22	0.10	-0.31	-9.40	0.01						
215.0	-0.27	-9.22	0.10	-0.31	-9.40	0.01						
215.5	-0.27	-9.22	0.10	-0.31	-9.40	0.01						
216.0	-0.27	-9.22	0.10	-0.31	-9.40	0.01						
216.5	-0.27	-9.22	0.10	-0.31	-9.40	0.01						
217.0	-0.27	-9.22	0.10	-0.31	-9.40	0.01						
217.5	-0.27	-9.22	0.10	-0.31	-9.40	0.01						
218.0	-0.27	-9.22	0.10	-0.31	-9.39	0.01						
218.5	-0.27	-9.22	0.10	-0.32	-9.39	0.01						
219.0	-0.27	-9.21	0.10	-0.32	-9.39	0.01						
219.5	-0.27	-9.21	0.10	-0.32	-9.39	0.01						

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TABLE VI

TIME SEC	EARTH-FIXED-ACCELERATIONS						SPACE-FIXED-ACCELERATIONS					
	X M/SEC SEC	Y M/SEC SEC	Z M/SEC SEC	X M/SEC SEC	Y M/SEC SEC	Z M/SEC SEC	X M/SEC SEC	Y M/SEC SEC	Z M/SEC SEC	X M/SEC SEC	Y M/SEC SEC	Z M/SEC SEC
220.0	-0.27	-9.21	0.10	-0.32	-9.39	0.01						
220.5	-0.27	-9.21	0.10	-0.32	-9.39	0.01						
221.0	-0.27	-9.21	0.10	-0.32	-9.39	0.01						
221.5	-0.27	-9.21	0.10	-0.32	-9.39	0.01						
222.0	-0.27	-9.21	0.10	-0.32	-9.39	0.01						
222.5	-0.27	-9.21	0.10	-0.32	-9.39	0.01						
223.0	-0.27	-9.21	0.10	-0.33	-9.38	0.01						
223.5	-0.27	-9.21	0.10	-0.33	-9.38	0.01						
224.0	-0.27	-9.20	0.10	-0.33	-9.38	0.01						
224.5	-0.27	-9.20	0.10	-0.33	-9.38	0.01						
225.0	-0.27	-9.20	0.10	-0.33	-9.38	0.01						
225.5	-0.27	-9.20	0.10	-0.33	-9.38	0.01						
226.0	-0.27	-9.20	0.10	-0.33	-9.38	0.01						
226.5	-0.27	-9.20	0.10	-0.33	-9.38	0.01						
227.0	-0.27	-9.20	0.10	-0.33	-9.38	0.01						
227.5	-0.27	-9.20	0.10	-0.34	-9.38	0.01						
228.0	-0.27	-9.20	0.10	-0.34	-9.37	0.01						
228.5	-0.27	-9.20	0.10	-0.34	-9.37	0.01						
229.0	-0.27	-9.20	0.10	-0.34	-9.37	0.01						
229.5	-0.27	-9.19	0.10	-0.34	-9.37	0.01						
230.0	-0.27	-9.19	0.10	-0.34	-9.37	0.01						
230.5	-0.27	-9.19	0.10	-0.34	-9.37	0.01						
231.0	-0.27	-9.19	0.10	-0.34	-9.37	0.01						
231.5	-0.27	-9.19	0.10	-0.35	-9.37	0.01						
232.0	-0.28	-9.19	0.10	-0.35	-9.37	0.01						
232.5	-0.28	-9.19	0.10	-0.35	-9.37	0.01						
233.0	-0.28	-9.19	0.10	-0.35	-9.37	0.01						
233.5	-0.28	-9.19	0.10	-0.35	-9.37	0.01						
234.0	-0.28	-9.19	0.10	-0.35	-9.36	0.01						
234.5	-0.28	-9.19	0.10	-0.35	-9.36	0.01						
235.0	-0.28	-9.19	0.10	-0.35	-9.36	0.01						
235.5	-0.28	-9.19	0.10	-0.35	-9.36	0.01						
236.0	-0.28	-9.18	0.10	-0.36	-9.36	0.01						
236.5	-0.28	-9.18	0.10	-0.36	-9.36	0.01						
237.0	-0.28	-9.18	0.10	-0.36	-9.36	0.01						
237.5	-0.28	-9.18	0.10	-0.36	-9.36	0.01						
238.0	-0.28	-9.18	0.10	-0.36	-9.36	0.01						
238.5	-0.28	-9.18	0.10	-0.36	-9.36	0.01						
239.0	-0.28	-9.18	0.10	-0.36	-9.36	0.01						
239.5	-0.28	-9.18	0.10	-0.36	-9.36	0.01						

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TABLE VI

TIME SEC	EARTH-FIXED-ACCELERATIONS						SPACE-FIXED-ACCELERATIONS					
	X M/SEC SEC	Y M/SEC SEC	Z M/SEC SEC	X M/SEC SEC	Y M/SEC SEC	Z M/SEC SEC	X M/SEC SEC	Y M/SEC SEC	Z M/SEC SEC	X M/SEC SEC	Y M/SEC SEC	Z M/SEC SEC
240.0	-0.28	-9.18	0.10	-0.36	-9.35	0.01						
240.5	-0.28	-9.18	0.09	-0.37	-9.35	0.01						
241.0	-0.28	-9.18	0.09	-0.37	-9.35	0.01						
241.5	-0.28	-9.18	0.09	-0.37	-9.35	0.01						
242.0	-0.28	-9.18	0.09	-0.37	-9.35	0.01						
242.5	-0.28	-9.17	0.09	-0.37	-9.35	0.01						
243.0	-0.28	-9.17	0.09	-0.37	-9.35	0.01						
243.5	-0.28	-9.17	0.09	-0.37	-9.35	0.01						
244.0	-0.28	-9.17	0.09	-0.37	-9.35	0.01						
244.5	-0.28	-9.17	0.09	-0.37	-9.35	0.01						
245.0	-0.28	-9.17	0.09	-0.38	-9.35	0.01						
245.5	-0.28	-9.17	0.09	-0.38	-9.35	0.01						
246.0	-0.28	-9.17	0.09	-0.38	-9.35	0.01						
246.5	-0.28	-9.17	0.09	-0.38	-9.35	0.01						
247.0	-0.28	-9.17	0.09	-0.38	-9.34	0.01						
247.5	-0.28	-9.17	0.09	-0.38	-9.34	0.01						
248.0	-0.28	-9.17	0.09	-0.38	-9.34	0.01						
248.5	-0.28	-9.17	0.09	-0.38	-9.34	0.01						
249.0	-0.28	-9.17	0.09	-0.38	-9.34	0.01						
249.5	-0.28	-9.17	0.09	-0.39	-9.34	0.01						
250.0	-0.28	-9.17	0.09	-0.39	-9.34	0.01						
250.5	-0.29	-9.16	0.09	-0.39	-9.34	0.01						
251.0	-0.29	-9.16	0.09	-0.39	-9.34	0.01						
251.5	-0.29	-9.16	0.09	-0.39	-9.34	0.01						
252.0	-0.29	-9.16	0.09	-0.39	-9.34	0.01						
252.5	-0.29	-9.16	0.09	-0.39	-9.34	0.01						
253.0	-0.29	-9.16	0.09	-0.39	-9.34	0.01						
253.5	-0.29	-9.16	0.09	-0.40	-9.34	0.01						
254.0	-0.29	-9.16	0.09	-0.40	-9.34	0.01						
254.5	-0.29	-9.16	0.09	-0.40	-9.34	0.01						
255.0	-0.29	-9.16	0.09	-0.40	-9.33	0.01						
255.5	-0.29	-9.16	0.09	-0.40	-9.33	0.01						
256.0	-0.29	-9.16	0.09	-0.40	-9.33	0.01						
256.5	-0.29	-9.16	0.09	-0.40	-9.33	0.01						
257.0	-0.29	-9.16	0.09	-0.40	-9.33	0.01						
257.5	-0.29	-9.16	0.09	-0.40	-9.33	0.01						
258.0	-0.29	-9.16	0.09	-0.41	-9.33	0.01						
258.5	-0.29	-9.16	0.09	-0.41	-9.33	0.01						
259.0	-0.29	-9.16	0.09	-0.41	-9.33	0.01						
259.5	-0.29	-9.16	0.09	-0.41	-9.33	0.01						

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TABLE VI

TIME SEC	EARTH-FIXED-ACCELERATIONS						SPACE-FIXED-ACCELERATIONS					
	X M/SEC SQ		Y M/SEC SQ		Z M/SEC SQ		X M/SEC SQ		Y M/SEC SQ		Z M/SEC SQ	
260.0	-0.29		-9.15		0.09		-0.41		-9.33		0.01	
260.5	-0.29		-9.15		0.09		-0.41		-9.33		0.01	
261.0	-0.29		-9.15		0.09		-0.41		-9.33		0.02	
261.5	-0.29		-9.15		0.09		-0.41		-9.33		0.02	
262.0	-0.29		-9.15		0.09		-0.41		-9.33		0.02	
262.5	-0.29		-9.15		0.09		-0.42		-9.33		0.02	
263.0	-0.29		-9.15		0.09		-0.42		-9.33		0.02	
263.5	-0.29		-9.15		0.09		-0.42		-9.33		0.02	
264.0	-0.29		-9.15		0.09		-0.42		-9.33		0.02	
264.5	-0.29		-9.15		0.09		-0.42		-9.33		0.02	
265.0	-0.29		-9.15		0.09		-0.42		-9.32		0.02	
265.5	-0.29		-9.15		0.09		-0.42		-9.32		0.02	
266.0	-0.29		-9.15		0.09		-0.42		-9.32		0.02	
266.5	-0.29		-9.15		0.09		-0.42		-9.32		0.02	
267.0	-0.29		-9.15		0.09		-0.43		-9.32		0.02	
267.5	-0.29		-9.15		0.09		-0.43		-9.32		0.02	
268.0	-0.29		-9.15		0.09		-0.43		-9.32		0.02	
268.5	-0.29		-9.15		0.09		-0.43		-9.32		0.02	
269.0	-0.30		-9.15		0.09		-0.43		-9.32		0.02	
269.5	-0.30		-9.15		0.09		-0.43		-9.32		0.02	
270.0	-0.30		-9.15		0.09		-0.43		-9.32		0.02	
270.5	-0.30		-9.15		0.09		-0.43		-9.32		0.02	
271.0	-0.30		-9.15		0.09		-0.43		-9.32		0.02	
271.5	-0.30		-9.15		0.09		-0.44		-9.32		0.02	
272.0	-0.30		-9.15		0.09		-0.44		-9.32		0.02	
272.5	-0.30		-9.15		0.09		-0.44		-9.32		0.02	
273.0	-0.30		-9.15		0.09		-0.44		-9.32		0.02	
273.5	-0.30		-9.14		0.09		-0.44		-9.32		0.02	
274.0	-0.30		-9.14		0.09		-0.44		-9.32		0.02	
274.5	-0.30		-9.14		0.09		-0.44		-9.32		0.02	
275.0	-0.30		-9.14		0.09		-0.44		-9.32		0.02	
275.5	-0.30		-9.14		0.09		-0.45		-9.32		0.02	
276.0	-0.30		-9.14		0.09		-0.45		-9.32		0.02	
276.5	-0.30		-9.14		0.09		-0.45		-9.32		0.02	
277.0	-0.30		-9.14		0.09		-0.45		-9.32		0.02	
277.5	-0.30		-9.14		0.09		-0.45		-9.32		0.02	
278.0	-0.30		-9.14		0.09		-0.45		-9.32		0.02	
278.5	-0.30		-9.14		0.09		-0.45		-9.32		0.02	
279.0	-0.30		-9.14		0.09		-0.45		-9.31		0.02	
279.5	-0.30		-9.14		0.09		-0.45		-9.31		0.02	

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TABLE VI

TIME SEC	EARTH-FIXED-ACCELERATIONS						SPACE-FIXED-ACCELERATIONS					
	X M/SEC SQ		Y M/SEC SQ		Z M/SEC SQ		X M/SEC SQ		Y M/SEC SQ		Z M/SEC SQ	
280.0	-0.30		-9.14		0.09		-0.46		-9.31		0.02	
280.5	-0.30		-9.14		0.09		-0.46		-9.31		0.02	
281.0	-0.30		-9.14		0.08		-0.46		-9.31		0.02	
281.5	-0.30		-9.14		0.08		-0.46		-9.31		0.02	
282.0	-0.30		-9.14		0.08		-0.46		-9.31		0.02	
282.5	-0.30		-9.14		0.08		-0.46		-9.31		0.02	
283.0	-0.30		-9.14		0.08		-0.46		-9.31		0.02	
283.5	-0.30		-9.14		0.08		-0.46		-9.31		0.02	
284.0	-0.30		-9.14		0.08		-0.46		-9.31		0.02	
284.5	-0.30		-9.14		0.08		-0.47		-9.31		0.02	
285.0	-0.30		-9.14		0.08		-0.47		-9.31		0.02	
285.5	-0.30		-9.14		0.08		-0.47		-9.31		0.02	
286.0	-0.30		-9.14		0.08		-0.47		-9.31		0.02	
286.5	-0.30		-9.14		0.08		-0.47		-9.31		0.02	
287.0	-0.31		-9.14		0.08		-0.47		-9.31		0.02	
287.5	-0.31		-9.14		0.08		-0.47		-9.31		0.02	
288.0	-0.31		-9.14		0.08		-0.47		-9.31		0.02	
288.5	-0.31		-9.14		0.08		-0.47		-9.31		0.02	
289.0	-0.31		-9.14		0.08		-0.48		-9.31		0.02	
289.5	-0.31		-9.14		0.08		-0.48		-9.31		0.02	
290.0	-0.31		-9.14		0.08		-0.48		-9.31		0.02	
290.5	-0.31		-9.14		0.08		-0.48		-9.31		0.02	
291.0	-0.31		-9.14		0.08		-0.48		-9.31		0.02	
291.5	-0.31		-9.14		0.08		-0.48		-9.31		0.02	
WATER RELEASE												
292.000	-0.31		-9.14		0.08		-0.48		-9.31		0.02	

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TABLE VII

TIME SEC	ALTITUDE M	RANGE M	RANGE NM	LATITUDE DEG	LONGITUDE DEG
FIRST MOTION					
0.100	31.	0	0.000	28.52152	80.56135
LIFT OFF SIGNAL					
0.330	31.	0	0.000	28.52152	80.56135
0.5	31.	0	0.000	28.52152	80.56135
1.0	31.	0	0.000	28.52152	80.56135
1.5	32.	0	0.000	28.52152	80.56135
2.0	34.	0	0.000	28.52152	80.56135
2.5	35.	0	0.000	28.52152	80.56135
3.0	38.	0	0.000	28.52152	80.56135
3.5	40.	0	0.000	28.52152	80.56135
4.0	44.	0	0.000	28.52152	80.56135
4.5	47.	0	0.000	28.52153	80.56135
5.0	52.	0	0.000	28.52153	80.56135
5.5	56.	0	0.000	28.52153	80.56135
6.0	62.	0	0.000	28.52153	80.56135
6.5	68.	0	0.000	28.52153	80.56135
7.0	74.	0	0.000	28.52153	80.56135
7.5	81.	0	0.000	28.52153	80.56135
8.0	88.	1	0.000	28.52153	80.56135
8.5	96.	1	0.000	28.52153	80.56135
9.0	105.	1	0.000	28.52153	80.56135
9.5	114.	1	0.000	28.52153	80.56135
10.0	124.	1	0.001	28.52153	80.56135
10.5	134.	1	0.001	28.52153	80.56135
11.0	146.	1	0.001	28.52153	80.56135
11.5	157.	1	0.001	28.52154	80.56135
12.0	170.	2	0.001	28.52154	80.56135
12.5	183.	2	0.001	28.52154	80.56135
13.0	196.	2	0.001	28.52154	80.56135
13.5	211.	2	0.001	28.52154	80.56135
14.0	226.	2	0.001	28.52154	80.56135
14.5	241.	3	0.001	28.52155	80.56135
15.0	258.	3	0.002	28.52155	80.56135
15.5	275.	3	0.002	28.52155	80.56135
16.0	293.	3	0.002	28.52155	80.56135
16.5	311.	4	0.002	28.52155	80.56135
17.0	331.	4	0.002	28.52156	80.56135

TABLE VII

TIME SEC	ALTITUDE M	RANGE M	RANGE NM	LATITUDE DEG	LONGITUDE DEG
17.5	351.	4	0.002	28.52156	80.56135
18.0	372.	4	0.002	28.52156	80.56135
18.5	393.	4	0.002	28.52156	80.56135
19.0	416.	5	0.003	28.52156	80.56135
19.5	439.	5	0.003	28.52157	80.56135
20.0	463.	5	0.003	28.52157	80.56135
20.5	488.	5	0.003	28.52157	80.56135
21.0	513.	6	0.003	28.52157	80.56135
21.5	540.	6	0.003	28.52158	80.56134
22.0	567.	6	0.003	28.52158	80.56134
22.5	595.	7	0.004	28.52158	80.56134
23.0	624.	7	0.004	28.52158	80.56134
23.5	654.	7	0.004	28.52159	80.56134
24.0	685.	7	0.004	28.52159	80.56134
24.5	717.	8	0.004	28.52159	80.56134
25.0	750.	8	0.004	28.52160	80.56133
25.5	783.	9	0.005	28.52160	80.56133
26.0	817.	9	0.005	28.52160	80.56133
26.5	853.	10	0.005	28.52161	80.56133
27.0	889.	10	0.005	28.52161	80.56132
27.5	926.	11	0.006	28.52162	80.56132
28.0	964.	11	0.006	28.52162	80.56132
28.5	1004.	12	0.006	28.52162	80.56131
29.0	1044.	13	0.007	28.52163	80.56131
29.5	1085.	13	0.007	28.52163	80.56130
30.0	1127.	14	0.008	28.52164	80.56130
30.5	1170.	15	0.008	28.52164	80.56129
31.0	1214.	15	0.008	28.52165	80.56128
31.5	1260.	16	0.009	28.52165	80.56128
32.0	1306.	17	0.009	28.52166	80.56127
32.5	1354.	18	0.010	28.52166	80.56126
33.0	1402.	19	0.010	28.52167	80.56125
33.5	1452.	19	0.010	28.52167	80.56124
34.0	1502.	20	0.011	28.52167	80.56123
34.5	1554.	21	0.011	28.52168	80.56122
35.0	1607.	22	0.012	28.52168	80.56121
35.5	1661.	23	0.013	28.52169	80.56120
36.0	1717.	25	0.013	28.52169	80.56119
36.5	1773.	26	0.014	28.52170	80.56118
37.0	1831.	27	0.015	28.52170	80.56116

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TIME SEC	ALTITUDE M	RANGE M	RANGE NM	LATITUDE DEG	LONGITUDE DEG
37.5	1890.	29	0.016	28.52171	80.56115
38.0	1950.	30	0.016	28.52171	80.56113
38.5	2011.	32	0.017	28.52172	80.56112
39.0	2073.	34	0.018	28.52172	80.56110
39.5	2137.	35	0.019	28.52173	80.56108
40.0	2201.	37	0.020	28.52174	80.56107
40.5	2268.	38	0.021	28.52175	80.56105
41.0	2335.	40	0.022	28.52175	80.56103
41.5	2404.	42	0.023	28.52176	80.56101
42.0	2474.	45	0.024	28.52177	80.56099
42.5	2545.	47	0.025	28.52177	80.56096
43.0	2617.	49	0.027	28.52178	80.56094
43.5	2692.	52	0.028	28.52178	80.56091
44.0	2767.	55	0.030	28.52179	80.56088
44.5	2844.	58	0.031	28.52180	80.56085
45.0	2922.	61	0.033	28.52180	80.56082
45.5	3001.	64	0.034	28.52181	80.56079
46.0	3082.	67	0.036	28.52181	80.56075
46.5	3164.	71	0.038	28.52182	80.56071
47.0	3248.	75	0.040	28.52182	80.56067
47.5	3333.	79	0.042	28.52183	80.56063
48.0	3420.	83	0.045	28.52183	80.56058
48.5	3508.	87	0.047	28.52184	80.56054
49.0	3598.	92	0.050	28.52184	80.56049
49.5	3689.	97	0.052	28.52185	80.56043
50.0	3781.	102	0.055	28.52185	80.56038
50.5	3875.	108	0.058	28.52186	80.56032
51.0	3971.	114	0.061	28.52186	80.56026
51.5	4068.	120	0.065	28.52186	80.56019
52.0	4167.	126	0.068	28.52187	80.56012
52.5	4268.	133	0.072	28.52187	80.56005
53.0	4370.	140	0.076	28.52187	80.55997
53.5	4473.	148	0.080	28.52187	80.55989
54.0	4579.	156	0.084	28.52187	80.55981
54.5	4685.	165	0.089	28.52187	80.55972
55.0	4794.	173	0.094	28.52187	80.55963
55.5	4904.	183	0.099	28.52187	80.55953
56.0	5016.	192	0.104	28.52187	80.55943
56.5	5130.	203	0.109	28.52186	80.55932
57.0	5245.	213	0.115	28.52186	80.55921

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TIME SEC	ALTITUDE M	RANGE M	RANGE NM	LATITUDE DEG	LONGITUDE DEG
57.5	5362.	225	0.121	28.52185	80.55909
58.0	5481.	236	0.128	28.52185	80.55897
58.5	5602.	249	0.134	28.52184	80.55884
59.0	5724.	262	0.141	28.52183	80.55870
59.5	5848.	275	0.149	28.52183	80.55856
60.0	5974.	289	0.156	28.52182	80.55842
60.5	6102.	304	0.164	28.52181	80.55826
61.0	6231.	320	0.173	28.52180	80.55810
61.5	6363.	336	0.181	28.52178	80.55794
62.0	6497.	358	0.194	28.52185	80.55771
62.5	6632.	376	0.203	28.52184	80.55753
63.0	6769.	394	0.213	28.52182	80.55734
63.5	6907.	413	0.223	28.52181	80.55715
64.0	7048.	433	0.234	28.52179	80.55694
64.5	7191.	453	0.245	28.52176	80.55673
65.0	7335.	475	0.256	28.52174	80.55651
65.5	7482.	497	0.268	28.52172	80.55628
66.0	7630.	520	0.281	28.52169	80.55605
66.5	7780.	543	0.293	28.52166	80.55581
67.0	7932.	568	0.307	28.52163	80.55555
67.5	8086.	594	0.321	28.52160	80.55529
68.0	8242.	620	0.335	28.52157	80.55502
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MACH 1					
68.100	8273.	626	0.338	28.52156	80.55496
68.5	8400.	648	0.350	28.52154	80.55473
69.0	8559.	677	0.365	28.52150	80.55444
69.5	8721.	706	0.381	28.52146	80.55414
70.0	8884.	737	0.398	28.52142	80.55383
70.5	9049.	769	0.415	28.52138	80.55350
71.0	9217.	802	0.433	28.52134	80.55317
71.5	9386.	836	0.451	28.52129	80.55282
72.0	9557.	871	0.470	28.52125	80.55246
72.5	9730.	907	0.490	28.52120	80.55209
73.0	9905.	944	0.510	28.52115	80.55172
73.5	10082.	983	0.531	28.52110	80.55132
74.0	10260.	1023	0.552	28.52104	80.55092
74.5	10441.	1063	0.574	28.52098	80.55050
75.0	10624.	1106	0.597	28.52092	80.55008
75.5	10809.	1149	0.621	28.52086	80.54964

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TIME SEC	ALTITUDE M	RANGE M	RANGE NM	LATITUDE DEG	LONGITUDE DEG
76.0	10996.	1194	0.645	28.52080	80.54918
76.5	11185.	1240	0.670	28.52073	80.54872
77.0	11376.	1288	0.695	28.52066	80.54823
77.5	11569.	1337	0.722	28.52059	80.54774
78.0	11764.	1387	0.749	28.52052	80.54723
78.5	11962.	1438	0.777	28.52044	80.54671
MAXIMUM DYNAMIC PRESSURE					
78.600	12002.	1449	0.782	28.52043	80.54660
79.0	12161.	1492	0.805	28.52037	80.54617
79.5	12363.	1546	0.835	28.52028	80.54562
80.0	12567.	1602	0.865	28.52020	80.54505
80.5	12774.	1660	0.896	28.52011	80.54447
81.0	12982.	1720	0.928	28.52003	80.54387
81.5	13193.	1781	0.961	28.51993	80.54325
82.0	13406.	1843	0.995	28.51984	80.54262
82.5	13622.	1908	1.030	28.51974	80.54197
83.0	13839.	1974	1.066	28.51965	80.54130
83.5	14060.	2042	1.102	28.51954	80.54062
84.0	14282.	2111	1.140	28.51944	80.53992
84.5	14507.	2182	1.178	28.51933	80.53920
85.0	14735.	2256	1.218	28.51923	80.53846
85.5	14965.	2331	1.258	28.51911	80.53770
86.0	15198.	2408	1.300	28.51900	80.53693
86.5	15433.	2486	1.343	28.51888	80.53613
87.0	15671.	2567	1.386	28.51876	80.53532
87.5	15911.	2650	1.431	28.51863	80.53448
88.0	16154.	2734	1.476	28.51851	80.53363
88.5	16400.	2821	1.523	28.51838	80.53275
89.0	16648.	2910	1.571	28.51824	80.53186
89.5	16899.	3001	1.620	28.51810	80.53094
90.0	17153.	3094	1.670	28.51796	80.53001
90.5	17409.	3189	1.722	28.51782	80.52905
91.0	17668.	3286	1.774	28.51767	80.52807
91.5	17930.	3385	1.828	28.51752	80.52707
92.0	18195.	3487	1.883	28.51737	80.52604
92.5	18463.	3591	1.939	28.51721	80.52499
93.0	18734.	3698	1.997	28.51705	80.52392
93.5	19007.	3806	2.055	28.51689	80.52283
94.0	19284.	3917	2.115	28.51672	80.52171

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TIME SEC	ALTITUDE M	RANGE M	RANGE NM	LATITUDE DEG	LONGITUDE DEG
94.5	19563.	4031	2.176	28.51654	80.52056
95.0	19846.	4147	2.239	28.51637	80.51939
95.5	20131.	4265	2.303	28.51619	80.51820
96.0	20420.	4386	2.368	28.51600	80.51698
96.5	20711.	4510	2.435	28.51581	80.51573
97.0	21006.	4636	2.503	28.51562	80.51446
97.5	21303.	4765	2.573	28.51542	80.51316
98.0	21604.	4897	2.644	28.51522	80.51184
98.5	21907.	5031	2.717	28.51502	80.51048
99.0	22214.	5169	2.791	28.51481	80.50910
99.5	22524.	5309	2.867	28.51459	80.50769
100.0	22837.	5452	2.944	28.51437	80.50625
100.5	23154.	5598	3.022	28.51415	80.50478
101.0	23473.	5746	3.103	28.51392	80.50328
101.5	23796.	5898	3.185	28.51369	80.50175
102.0	24122.	6053	3.268	28.51345	80.50020
102.5	24451.	6211	3.354	28.51321	80.49860
103.0	24784.	6372	3.441	28.51296	80.49698
103.5	25120.	6537	3.529	28.51271	80.49533
104.0	25459.	6704	3.620	28.51245	80.49364
104.5	25801.	6875	3.712	28.51218	80.49192
105.0	26147.	7049	3.806	28.51191	80.49017
105.5	26496.	7226	3.902	28.51164	80.48839
106.0	26848.	7407	4.000	28.51136	80.48656
106.5	27204.	7592	4.099	28.51107	80.48471
107.0	27563.	7780	4.201	28.51078	80.48282
107.5	27926.	7971	4.304	28.51049	80.48089
108.0	28292.	8166	4.409	28.51018	80.47893
108.5	28661.	8365	4.517	28.50987	80.47692
109.0	29034.	8568	4.626	28.50956	80.47489
109.5	29410.	8774	4.738	28.50923	80.47281
110.0	29790.	8984	4.851	28.50890	80.47070
110.5	30173.	9198	4.967	28.50857	80.46854
111.0	30559.	9416	5.084	28.50823	80.46635
111.5	30950.	9639	5.204	28.50788	80.46411
112.0	31343.	9865	5.326	28.50753	80.46184
112.5	31740.	10095	5.451	28.50717	80.45952
113.0	32140.	10329	5.577	28.50680	80.45716
113.5	32544.	10568	5.706	28.50642	80.45476
114.0	32952.	10811	5.837	28.50604	80.45232

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TABLE VII

TIME SEC	ALTITUDE M	RANGE M	RANGE NM	LATITUDE DEG	LONGITUDE DEG
114.5	33363.	11058	5.971	28.50565	80.44984
115.0	33778.	11309	6.107	28.50526	80.44730
115.5	34196.	11565	6.245	28.50485	80.44473
116.0	34617.	11826	6.385	28.50444	80.44211
116.5	35042.	12091	6.529	28.50403	80.43944
117.0	35471.	12361	6.674	28.50360	80.43673
117.5	35903.	12635	6.823	28.50317	80.43397
118.0	36339.	12914	6.973	28.50273	80.43116
118.5	36779.	13198	7.127	28.50228	80.42830
119.0	37222.	13487	7.282	28.50182	80.42540
119.5	37668.	13781	7.441	28.50136	80.42245
120.0	38119.	14079	7.602	28.50089	80.41944
120.5	38573.	14383	7.766	28.50041	80.41639
121.0	39031.	14691	7.932	28.49992	80.41329
121.5	39492.	15004	8.102	28.49942	80.41014
122.0	39957.	15323	8.274	28.49892	80.40694
122.5	40426.	15647	8.448	28.49840	80.40368
123.0	40899.	15975	8.626	28.49788	80.40037
123.5	41376.	16309	8.806	28.49735	80.39702
124.0	41856.	16649	8.990	28.49681	80.39360
124.5	42340.	16994	9.176	28.49626	80.39014
125.0	42828.	17344	9.365	28.49571	80.38662
125.5	43320.	17699	9.557	28.49514	80.38304
126.0	43816.	18060	9.752	28.49457	80.37941
126.5	44315.	18427	9.950	28.49398	80.37573
127.0	44819.	18799	10.151	28.49339	80.37199
127.5	45326.	19177	10.355	28.49279	80.36819
128.0	45838.	19560	10.562	28.49218	80.36433
128.5	46353.	19950	10.772	28.49155	80.36042
129.0	46873.	20345	10.985	28.49092	80.35645
129.5	47396.	20746	11.202	28.49028	80.35241
130.0	47923.	21153	11.422	28.48963	80.34832
130.5	48455.	21566	11.645	28.48897	80.34417
131.0	48991.	21985	11.871	28.48830	80.33996
131.5	49530.	22409	12.100	28.48762	80.33569
132.0	50074.	22840	12.333	28.48693	80.33136
132.5	50622.	23278	12.569	28.48622	80.32697
133.0	51175.	23721	12.808	28.48551	80.32251
133.5	51731.	24171	13.051	28.48479	80.31799
134.0	52292.	24626	13.297	28.48406	80.31341

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TIME SEC	ALTITUDE M	RANGE M	RANGE NM	LATITUDE DEG	LONGITUDE DEG
134.5	52858.	25088	13.547	28.48331	80.30877
135.0	53427.	25557	13.800	28.48256	80.30406
135.5	54002.	26031	14.056	28.48180	80.29929
136.0	54580.	26512	14.316	28.48102	80.29446
136.5	55164.	27000	14.579	28.48024	80.28956
137.0	55752.	27494	14.846	28.47944	80.28460
137.5	56344.	27994	15.116	28.47863	80.27957
138.0	56942.	28501	15.390	28.47781	80.27447
138.5	57544.	29015	15.667	28.47698	80.26931
139.0	58151.	29535	15.948	28.47614	80.26409
139.5	58763.	30062	16.232	28.47529	80.25879
140.0	59379.	30596	16.520	28.47442	80.25343
140.5	60001.	31136	16.812	28.47355	80.24801
141.0	60628.	31683	17.107	28.47266	80.24251
141.5	61260.	32237	17.406	28.47177	80.23695
INBOARD ENGINE CUTOFF					
141.660	61463.	32415	17.503	28.47148	80.23515
MAXIMUM LONGITUDINAL ACCELERATION					
141.800	61641.	32572	17.588	28.47122	80.23358
BEGIN INBOARD ENGINE THRUST DECAY					
141.800	61641.	32572	17.588	28.47122	80.23358
142.0	61896.	32797	17.709	28.47086	80.23132
142.5	62536.	33362	18.014	28.46994	80.22564
143.0	63177.	33931	18.321	28.46902	80.21993
143.5	63820.	34503	18.630	28.46809	80.21418
144.0	64464.	35079	18.941	28.46715	80.20840
END INBOARD ENGINE THRUST DECAY					
144.250	64786.	35368	19.097	28.46668	80.20550
144.5	65109.	35658	19.254	28.46621	80.20259
145.0	65756.	36240	19.568	28.46526	80.19674
145.5	66405.	36826	19.884	28.46431	80.19085
146.0	67055.	37415	20.202	28.46335	80.18494
146.5	67706.	38007	20.522	28.46238	80.17899
147.0	68359.	38603	20.844	28.46141	80.17300
147.5	69014.	39202	21.168	28.46043	80.16699
148.0	69670.	39805	21.493	28.45945	80.16093

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TABLE VII

TIME SEC	ALTITUDE M	RANGE M	RANGE NM	LATITUDE DEG	LONGITUDE DEG
148.5	70328.	40411	21.820	28.45846	80.15485
149.0	70987.	41021	22.150	28.45746	80.14873
OUTBOARD ENGINE CUTOFF					
149.090	71105.	41131	22.209	28.45728	80.14762
BEGIN OUTBOARD ENGINE THRUST DECAY					
149.200	71251.	41266	22.282	28.45706	80.14627
MAXIMUM EARTH-FIXED VELOCITY					
149.500	71647.	41634	22.480	28.45646	80.14257
150.0	72306.	42247	22.812	28.45546	80.13641
150.5	72964.	42861	23.143	28.45445	80.13025
151.0	73619.	43475	23.475	28.45345	80.12408
151.5	74272.	44089	23.806	28.45244	80.11792
152.0	74923.	44703	24.138	28.45143	80.11176
152.5	75572.	45316	24.469	28.45042	80.10560
END OUTBOARD ENGINE THRUST DECAY					
152.780	75934.	45660	24.654	28.44986	80.10215
153.0	76218.	45930	24.800	28.44941	80.09944
153.5	76861.	46544	25.132	28.44840	80.09328
RETRO ROCKETS IGNITE					
153.700	77119.	46789	25.264	28.44800	80.09082
154.0	77502.	47158	25.463	28.44740	80.08711
154.5	78141.	47769	25.793	28.44639	80.08098
155.0	78777.	48377	26.122	28.44538	80.07487
155.5	79410.	48986	26.451	28.44437	80.06876
RETRO ROCKETS BURNOUT					
155.900	79913.	49475	26.714	28.44357	80.06386
156.0	80039.	49597	26.780	28.44337	80.06263
156.5	80665.	50207	27.110	28.44237	80.05650
157.0	81289.	50817	27.439	28.44137	80.05038
157.5	81912.	51426	27.768	28.44037	80.04426
158.0	82532.	52035	28.097	28.43937	80.03816
158.5	83149.	52643	28.425	28.43836	80.03205
159.0	83765.	53252	28.754	28.43735	80.02595
159.5	84378.	53860	29.082	28.43635	80.01984

TABLE VII

TIME SEC	ALTITUDE M	RANGE M	RANGE NM	LATITUDE DEG	LONGITUDE DEG
160.0	84989.	54468	29.410	28.43534	80.01374
160.5	85597.	55076	29.739	28.43433	80.00764
161.0	86203.	55684	30.067	28.43333	80.00154
161.5	86807.	56291	30.395	28.43232	79.99545
162.0	87409.	56898	30.723	28.43131	79.98935
162.5	88008.	57506	31.050	28.43031	79.98326
163.0	88605.	58112	31.378	28.42930	79.97717
163.5	89200.	58719	31.706	28.42829	79.97108
164.0	89792.	59326	32.034	28.42728	79.96499
164.5	90383.	59933	32.361	28.42627	79.95891
165.0	90971.	60539	32.688	28.42526	79.95283
165.5	91556.	61145	33.016	28.42425	79.94674
166.0	92140.	61751	33.343	28.42325	79.94066
166.5	92721.	62357	33.670	28.42224	79.93458
167.0	93300.	62963	33.997	28.42123	79.92851
167.5	93876.	63569	34.324	28.42021	79.92243
168.0	94450.	64174	34.651	28.41920	79.91636
168.5	95022.	64780	34.978	28.41819	79.91029
169.0	95592.	65385	35.305	28.41718	79.90422
169.5	96159.	65990	35.632	28.41617	79.89815
170.0	96724.	66595	35.959	28.41516	79.89208
170.5	97287.	67200	36.285	28.41415	79.88601
171.0	97848.	67805	36.612	28.41314	79.87995
171.5	98406.	68409	36.938	28.41212	79.87389
172.0	98962.	69014	37.264	28.41111	79.86782
172.5	99516.	69618	37.591	28.41010	79.86176
173.0	100067.	70222	37.917	28.40908	79.85571
173.5	100617.	70826	38.243	28.40807	79.84965
174.0	101164.	71430	38.569	28.40706	79.84359
174.5	101708.	72034	38.895	28.40604	79.83754
175.0	102250.	72637	39.221	28.40503	79.83149
175.5	102791.	73241	39.547	28.40401	79.82544
176.0	103328.	73844	39.873	28.40300	79.81939
176.5	103864.	74447	40.198	28.40198	79.81334
177.0	104397.	75050	40.524	28.40097	79.80730
177.5	104928.	75653	40.850	28.39995	79.80125
178.0	105457.	76256	41.175	28.39893	79.79521
178.5	105983.	76859	41.500	28.39792	79.78917
179.0	106508.	77461	41.826	28.39690	79.78313
179.5	107029.	78064	42.151	28.39588	79.77709

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TABLE VII

TIME SEC	ALTITUDE M	RANGE M	RANGE NM	LATITUDE DEG	LONGITUDE DEG
180.0	107549.	78666	42.476	28.39487	79.77105
180.5	108066.	79268	42.801	28.39385	79.76501
181.0	108582.	79870	43.126	28.39283	79.75898
181.5	109094.	80472	43.451	28.39181	79.75295
182.0	109605.	81074	43.776	28.39079	79.74691
182.5	110113.	81675	44.101	28.38978	79.74088
183.0	110619.	82277	44.426	28.38876	79.73486
183.5	111123.	82878	44.751	28.38774	79.72883
184.0	111624.	83480	45.075	28.38672	79.72280
184.5	112124.	84081	45.400	28.38570	79.71678
185.0	112621.	84682	45.725	28.38468	79.71076
185.5	113115.	85283	46.049	28.38366	79.70473
186.0	113608.	85883	46.373	28.38264	79.69871
186.5	114098.	86484	46.698	28.38161	79.69269
187.0	114586.	87085	47.022	28.38059	79.68668
187.5	115071.	87685	47.346	28.37957	79.68066
188.0	115555.	88285	47.670	28.37855	79.67465
188.5	116036.	88886	47.994	28.37753	79.66863
189.0	116515.	89486	48.318	28.37650	79.66262
189.5	116991.	90086	48.642	28.37548	79.65661
190.0	117465.	90685	48.966	28.37446	79.65060
190.5	117937.	91285	49.290	28.37343	79.64459
191.0	118407.	91885	49.614	28.37241	79.63859
191.5	118875.	92484	49.937	28.37139	79.63258
192.0	119340.	93083	50.261	28.37036	79.62658
192.5	119803.	93683	50.585	28.36934	79.62058
193.0	120264.	94282	50.908	28.36831	79.61457
193.5	120722.	94881	51.232	28.36729	79.60857
194.0	121178.	95480	51.555	28.36626	79.60257
194.5	121632.	96079	51.878	28.36523	79.59658
195.0	122084.	96677	52.202	28.36421	79.59058
195.5	122533.	97276	52.525	28.36318	79.58459
196.0	122980.	97874	52.848	28.36215	79.57859
196.5	123425.	98473	53.171	28.36113	79.57260
197.0	123868.	99071	53.494	28.36010	79.56661
197.5	124308.	99669	53.817	28.35907	79.56062
198.0	124746.	100267	54.140	28.35804	79.55463
198.5	125182.	100865	54.463	28.35701	79.54864
199.0	125616.	101463	54.786	28.35599	79.54266
199.5	126047.	102060	55.108	28.35496	79.53667

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TABLE VII

TIME SEC	ALTITUDE M	RANGE M	RANGE NM	LATITUDE DEG	LONGITUDE DEG
200.0	126476.	102658	55.431	28.35393	79.53069
200.5	126903.	103256	55.754	28.35290	79.52470
201.0	127327.	103853	56.076	28.35187	79.51872
201.5	127750.	104450	56.399	28.35084	79.51274
202.0	128170.	105047	56.721	28.34981	79.50676
202.5	128588.	105645	57.043	28.34878	79.50079
203.0	129003.	106242	57.366	28.34774	79.49481
203.5	129416.	106838	57.688	28.34671	79.48884
204.0	129828.	107435	58.010	28.34568	79.48286
204.5	130236.	108032	58.333	28.34465	79.47689
205.0	130643.	108628	58.655	28.34362	79.47092
205.5	131047.	109225	58.977	28.34258	79.46495
206.0	131449.	109821	59.299	28.34155	79.45898
206.5	131849.	110418	59.621	28.34052	79.45301
207.0	132246.	111014	59.943	28.33948	79.44704
207.5	132641.	111610	60.264	28.33845	79.44107
208.0	133034.	112206	60.586	28.33741	79.43511
208.5	133425.	112802	60.908	28.33638	79.42915
209.0	133813.	113397	61.230	28.33534	79.42318
209.5	134200.	113993	61.551	28.33431	79.41722
210.0	134584.	114589	61.873	28.33327	79.41126
210.5	134965.	115184	62.195	28.33224	79.40530
211.0	135345.	115780	62.516	28.33120	79.39934
211.5	135722.	116375	62.838	28.33016	79.39339
212.0	136097.	116970	63.159	28.32913	79.38743
212.5	136470.	117565	63.480	28.32809	79.38147
213.0	136840.	118160	63.802	28.32705	79.37552
213.5	137208.	118755	64.123	28.32601	79.36957
214.0	137574.	119350	64.444	28.32498	79.36362
214.5	137938.	119945	64.765	28.32394	79.35766
215.0	138300.	120540	65.086	28.32290	79.35171
215.5	138659.	121134	65.407	28.32186	79.34577
216.0	139016.	121729	65.728	28.32082	79.33982
216.5	139370.	122323	66.049	28.31978	79.33387
217.0	139723.	122918	66.370	28.31874	79.32793
217.5	140073.	123512	66.691	28.31770	79.32198
218.0	140421.	124106	67.012	28.31666	79.31604
218.5	140767.	124700	67.333	28.31562	79.31010
219.0	141110.	125294	67.654	28.31457	79.30415
219.5	141451.	125888	67.974	28.31353	79.29821

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TABLE VII

TIME SEC	ALTITUDE M	RANGE M	RANGE NM	LATITUDE DEG	LONGITUDE DEG
220.0	141790.	126482	68.295	28.31249	79.29227
220.5	142127.	127076	68.615	28.31145	79.28634
221.0	142461.	127669	68.936	28.31040	79.28040
221.5	142794.	128263	69.257	28.30936	79.27446
222.0	143124.	128857	69.577	28.30832	79.26853
222.5	143451.	129450	69.897	28.30727	79.26259
223.0	143777.	130043	70.218	28.30623	79.25666
223.5	144100.	130637	70.538	28.30518	79.25072
224.0	144421.	131230	70.858	28.30414	79.24479
224.5	144740.	131823	71.179	28.30309	79.23886
225.0	145056.	132416	71.499	28.30205	79.23293
225.5	145371.	133009	71.819	28.30100	79.22700
226.0	145683.	133602	72.139	28.29996	79.22108
226.5	145992.	134195	72.459	28.29891	79.21515
227.0	146300.	134787	72.779	28.29786	79.20922
227.5	146605.	135380	73.099	28.29681	79.20330
228.0	146908.	135973	73.419	28.29577	79.19737
228.5	147209.	136565	73.739	28.29472	79.19145
229.0	147508.	137158	74.059	28.29367	79.18553
229.5	147804.	137750	74.379	28.29262	79.17960
230.0	148098.	138342	74.699	28.29157	79.17368
230.5	148390.	138935	75.019	28.29052	79.16776
231.0	148679.	139527	75.338	28.28947	79.16184
231.5	148967.	140119	75.658	28.28842	79.15593
232.0	149252.	140711	75.978	28.28737	79.15001
232.5	149535.	141303	76.297	28.28632	79.14409
233.0	149815.	141895	76.617	28.28527	79.13818
233.5	150093.	142486	76.937	28.28422	79.13226
234.0	150370.	143078	77.256	28.28317	79.12635
234.5	150643.	143670	77.576	28.28212	79.12043
235.0	150915.	144262	77.895	28.28106	79.11452
235.5	151184.	144853	78.214	28.28001	79.10861
236.0	151452.	145444	78.534	28.27896	79.10270
236.5	151717.	146036	78.853	28.27790	79.09679
237.0	151979.	146627	79.172	28.27685	79.09088
237.5	152240.	147219	79.492	28.27580	79.08497
238.0	152498.	147810	79.811	28.27474	79.07907
238.5	152754.	148401	80.130	28.27368	79.07316
239.0	153007.	148992	80.449	28.27263	79.06725
239.5	153259.	149583	80.768	28.27157	79.06135

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TABLE VII

TIME SEC	ALTITUDE M	RANGE M	RANGE NM	LATITUDE DEG	LONGITUDE DEG
240.0	153508.	150174	81.088	28.27052	79.05544
240.5	153755.	150765	81.407	28.26946	79.04954
241.0	154000.	151356	81.726	28.26840	79.04364
241.5	154242.	151947	82.045	28.26735	79.03773
242.0	154483.	152537	82.364	28.26629	79.03183
242.5	154721.	153128	82.683	28.26523	79.02593
243.0	154956.	153719	83.001	28.26417	79.02003
243.5	155190.	154309	83.320	28.26311	79.01413
244.0	155422.	154900	83.639	28.26205	79.00823
244.5	155650.	155490	83.958	28.26100	79.00234
245.0	155877.	156081	84.277	28.25994	78.99644
245.5	156102.	156671	84.596	28.25888	78.99054
246.0	156324.	157261	84.914	28.25782	78.98465
246.5	156544.	157852	85.233	28.25675	78.97875
247.0	156762.	158442	85.552	28.25569	78.97286
247.5	156978.	159032	85.870	28.25463	78.96697
248.0	157191.	159622	86.189	28.25357	78.96107
248.5	157402.	160212	86.508	28.25251	78.95518
249.0	157611.	160802	86.826	28.25145	78.94929
249.5	157818.	161392	87.145	28.25038	78.94340
250.0	158023.	161982	87.463	28.24932	78.93751
250.5	158225.	162572	87.782	28.24826	78.93162
251.0	158425.	163161	88.100	28.24719.	78.92573
251.5	158623.	163751	88.419	28.24613	78.91984
252.0	158818.	164341	88.737	28.24506	78.91395
252.5	159011.	164930	89.055	28.24400	78.90807
253.0	159202.	165520	89.374	28.24293	78.90218
253.5	159391.	166110	89.692	28.24186	78.89629
254.0	159578.	166699	90.010	28.24080	78.89041
254.5	159762.	167288	90.329	28.23973	78.88452
255.0	159944.	167878	90.647	28.23866	78.87864
255.5	160124.	168467	90.965	28.23760	78.87276
256.0	160302.	169057	91.283	28.23653	78.86687
256.5	160477.	169646	91.601	28.23546	78.86099
257.0	160650.	170235	91.920	28.23439	78.85511
257.5	160821.	170824	92.238	28.23332	78.84923
258.0	160990.	171414	92.556	28.23225	78.84335
258.5	161156.	172003	92.874	28.23118	78.83747
259.0	161321.	172592	93.192	28.23011	78.83159
259.5	161483.	173181	93.510	28.22904	78.82571

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TABLE VII

TIME SEC	ALTITUDE M	RANGE M	RANGE NM	LATITUDE DEG	LONGITUDE DEG
260.0	161642.	173770	93.828	28.22797	78.81983
260.5	161800.	174359	94.146	28.22690	78.81396
261.0	161955.	174948	94.464	28.22583	78.80808
261.5	162108.	175537	94.782	28.22476	78.80220
262.0	162259.	176125	95.100	28.22369	78.79633
262.5	162408.	176714	95.418	28.22261	78.79045
263.0	162554.	177303	95.736	28.22154	78.78458
263.5	162698.	177892	96.054	28.22047	78.77870
264.0	162840.	178480	96.372	28.21939	78.77283
264.5	162980.	179069	96.690	28.21832	78.76695
265.0	163117.	179658	97.007	28.21724	78.76108
265.5	163252.	180246	97.325	28.21617	78.75521
266.0	163385.	180835	97.643	28.21509	78.74934
266.5	163516.	181424	97.961	28.21402	78.74347
267.0	163645.	182012	98.279	28.21294	78.73760
267.5	163771.	182600	98.596	28.21186	78.73173
268.0	163895.	183189	98.914	28.21079	78.72586
268.5	164017.	183777	99.232	28.20971	78.71999
269.0	164136.	184366	99.550	28.20863	78.71412
269.5	164254.	184954	99.867	28.20755	78.70825
270.0	164369.	185543	100.185	28.20647	78.70238
270.5	164482.	186131	100.503	28.20539	78.69651
271.0	164592.	186719	100.820	28.20432	78.69064
271.5	164700.	187307	101.138	28.20324	78.68478
272.0	164807.	187896	101.456	28.20216	78.67891
272.5	164911.	188484	101.773	28.20107	78.67304
273.0	165012.	189072	102.091	28.19999	78.66718
273.5	165112.	189660	102.408	28.19891	78.66131
274.0	165209.	190248	102.726	28.19783	78.65545
274.5	165304.	190836	103.043	28.19675	78.64958
275.0	165397.	191424	103.361	28.19567	78.64372
275.5	165487.	192012	103.678	28.19458	78.63786
276.0	165576.	192601	103.996	28.19350	78.63199
276.5	165662.	193189	104.313	28.19242	78.62613
277.0	165746.	193777	104.631	28.19133	78.62027
277.5	165827.	194365	104.948	28.19025	78.61440
278.0	165907.	194953	105.266	28.18916	78.60854
278.5	165984.	195540	105.583	28.18808	78.60268
279.0	166059.	196128	105.901	28.18699	78.59682
279.5	166131.	196716	106.218	28.18590	78.59096

TABLE VII

TIME SEC	ALTITUDE M	RANGE M	RANGE NM	LATITUDE DEG	LONGITUDE DEG
280.0	166202.	197304	106.536	28.18482	78.58510
280.5	166270.	197892	106.853	28.18373	78.57924
281.0	166336.	198480	107.171	28.18264	78.57338
281.5	166400.	199068	107.488	28.18155	78.56752
282.0	166461.	199656	107.805	28.18047	78.56166
282.5	166521.	200243	108.123	28.17938	78.55580
283.0	166578.	200831	108.440	28.17829	78.54994
283.5	166633.	201419	108.758	28.17720	78.54408
284.0	166685.	202007	109.075	28.17611	78.53823
284.5	166736.	202595	109.392	28.17502	78.53237
285.0	166784.	203182	109.710	28.17393	78.52651
285.5	166830.	203770	110.027	28.17284	78.52065
286.0	166873.	204358	110.344	28.17174	78.51480
286.5	166915.	204946	110.662	28.17065	78.50894
287.0	166954.	205533	110.979	28.16956	78.50308
287.5	166991.	206121	111.296	28.16847	78.49723
288.0	167026.	206709	111.614	28.16737	78.49137
288.5	167058.	207296	111.931	28.16628	78.48552
289.0	167089.	207884	112.248	28.16519	78.47966
289.5	167117.	208472	112.566	28.16409	78.47381
290.0	167143.	209059	112.883	28.16300	78.46795
290.5	167166.	209647	113.200	28.16190	78.46210
291.0	167188.	210235	113.518	28.16080	78.45624
291.5	167207.	210822	113.835	28.15971	78.45039
WATER RELEASE					
292.000	167224.	211410	114.152	28.15861	78.44453

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TABLE VIII

TIME SEC	EARTH-VEL M/SEC	MACH	DYNPRES KG/M. SQ	VEL-ELEV DEG	VEL-AZ DEG	SPACE-VEL M/SEC
FIRST MOTION						
0.100	0.0	0.007	0.4	90.000	270.000	409.0
LIFT OFF SIGNAL						
0.330	0.4	0.007	0.4	85.994	272.368	409.0
0.5	0.6	0.007	0.4	86.365	273.806	409.0
1.0	1.5	0.008	0.5	87.308	276.660	409.0
1.5	2.3	0.010	0.7	88.037	277.911	409.0
2.0	3.2	0.012	1.0	88.589	278.107	409.0
2.5	4.1	0.014	1.4	88.997	277.712	409.0
3.0	5.1	0.016	1.9	89.286	277.086	409.0
3.5	6.0	0.019	2.6	89.478	276.500	409.0
4.0	7.0	0.022	3.4	89.595	276.138	409.0
4.5	8.0	0.024	4.3	89.657	276.123	409.0
5.0	9.0	0.027	5.3	89.681	276.527	409.1
5.5	10.1	0.030	6.5	89.678	277.384	409.1
6.0	11.1	0.033	7.9	89.652	278.697	409.1
6.5	12.2	0.036	9.4	89.610	280.448	409.1
7.0	13.3	0.039	11.1	89.556	282.594	409.2
7.5	14.4	0.042	12.9	89.495	285.074	409.2
8.0	15.5	0.046	15.0	89.432	287.813	409.3
8.5	16.7	0.049	17.2	89.371	290.720	409.3
9.0	17.9	0.052	19.7	89.314	293.699	409.4
9.5	19.1	0.056	22.3	89.263	296.656	409.5
10.0	20.3	0.059	25.2	89.221	299.505	409.5
10.5	21.5	0.063	28.3	89.187	302.174	409.6
11.0	22.8	0.066	31.6	89.162	304.608	409.7
11.5	24.0	0.070	35.2	89.146	306.774	409.8
12.0	25.3	0.074	39.0	89.139	308.650	409.8
12.5	26.6	0.078	43.1	89.140	310.235	409.9
13.0	28.0	0.082	47.5	89.148	311.537	410.0
13.5	29.3	0.086	52.2	89.162	312.572	410.1
14.0	30.7	0.090	57.1	89.182	313.366	410.2
14.5	32.1	0.094	62.4	89.205	313.950	410.3
15.0	33.5	0.098	67.9	89.231	314.359	410.4
15.5	35.0	0.102	73.7	89.259	314.634	410.6
16.0	36.5	0.106	79.9	89.287	314.818	410.7
16.5	37.9	0.111	86.4	89.316	314.957	410.8
17.0	39.4	0.115	93.2	89.342	315.100	411.0

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TABLE VIII

TIME SEC	EARTH-VEL M/SEC	MACH	DYNPRES KG/M SQ	VEL-ELEV DEG	VEL-AZ DEG	SPACE-VEL M/SEC
17.5	41.0	0.120	100.4	89.367	315.297	411.1
18.0	42.5	0.124	107.9	89.389	315.598	411.3
18.5	44.1	0.129	115.7	89.408	316.054	411.4
19.0	45.7	0.134	123.9	89.422	316.711	411.6
19.5	47.3	0.138	132.5	89.433	317.614	411.8
20.0	48.9	0.143	141.4	89.438	318.799	412.0
20.5	50.5	0.148	150.7	89.439	320.298	412.2
21.0	52.2	0.153	160.4	89.435	322.130	412.4
21.5	53.8	0.158	170.5	89.426	324.303	412.7
22.0	55.5	0.163	181.0	89.412	326.813	412.9
22.5	57.2	0.168	191.8	89.393	329.639	413.2
23.0	59.0	0.173	203.1	89.371	332.746	413.5
23.5	60.7	0.178	214.8	89.345	336.090	413.8
24.0	62.5	0.184	227.0	89.315	339.614	414.1
24.5	64.3	0.189	239.5	89.283	343.259	414.4
25.0	66.1	0.194	252.5	89.249	346.967	414.7
25.5	67.9	0.200	265.9	89.215	350.686	415.1
26.0	69.7	0.205	279.8	89.180	354.376	415.4
26.5	71.6	0.211	294.2	89.145	358.009	415.8
27.0	73.5	0.217	309.0	89.111	1.571	416.2
27.5	75.4	0.223	324.4	89.079	5.056	416.6
28.0	77.4	0.229	340.2	89.049	8.474	417.1
28.5	79.3	0.234	356.5	89.021	11.839	417.5
29.0	81.3	0.241	373.3	88.996	15.174	418.0
29.5	83.3	0.247	390.7	88.974	18.503	418.5
30.0	85.4	0.253	408.6	88.955	21.854	419.0
30.5	87.4	0.259	427.0	88.938	25.249	419.5
31.0	89.5	0.266	446.0	88.922	28.706	420.0
31.5	91.6	0.272	465.4	88.908	32.234	420.6
32.0	93.8	0.278	484.6	88.895	35.823	421.2
32.5	96.0	0.285	504.2	88.880	39.446	421.7
33.0	98.2	0.291	524.4	88.864	43.045	422.4
33.5	100.4	0.298	544.9	88.845	46.532	423.0
34.0	102.6	0.304	566.0	88.822	49.789	423.6
34.5	104.9	0.311	587.6	88.795	52.675	424.3
35.0	107.2	0.318	609.6	88.761	55.035	425.0
35.5	109.4	0.324	630.6	88.618	50.696	425.8
36.0	111.7	0.331	653.1	88.578	52.033	426.5
36.5	114.1	0.338	676.1	88.538	53.143	427.2
37.0	116.4	0.345	699.5	88.499	54.058	428.0

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TABLE VIII

TIME SEC	EARTH-VEL M/SEC	MACH	DYNPRES KG/M SQ	VEL-ELEV DEG	VEL-AZ DEG	SPACE-VEL M/SEC
37.5	418.8	0.352	723.2	88.461	54.828	428.8
38.0	421.2	0.359	747.4	88.423	55.555	429.6
38.5	423.6	0.367	772.0	88.385	56.368	430.4
39.0	426.1	0.374	797.7	88.347	57.350	431.3
39.5	428.6	0.382	823.9	88.307	58.573	432.2
40.0	431.1	0.389	850.5	88.264	60.000	433.1
40.5	433.6	0.397	877.2	88.217	61.584	434.1
41.0	436.2	0.404	903.5	88.165	63.209	435.1
41.5	438.8	0.412	930.1	88.108	64.791	436.1
42.0	441.4	0.420	956.9	88.046	66.260	437.2
42.5	444.0	0.427	984.5	87.979	67.600	438.3
43.0	446.7	0.435	1012.8	87.908	68.830	439.5
43.5	449.4	0.444	1041.4	87.835	69.996	440.7
44.0	452.1	0.452	1070.5	87.758	71.127	441.9
44.5	454.9	0.460	1100.7	87.678	72.243	443.2
45.0	457.7	0.469	1131.3	87.594	73.325	444.5
45.5	460.5	0.477	1162.1	87.506	74.377	445.9
46.0	463.3	0.486	1193.0	87.415	75.393	447.3
46.5	466.2	0.495	1224.1	87.319	76.381	448.7
47.0	469.1	0.504	1255.4	87.220	77.334	450.2
47.5	472.0	0.513	1287.5	87.117	78.259	451.7
48.0	475.0	0.522	1319.8	87.010	79.151	453.3
48.5	478.0	0.531	1352.3	86.899	80.015	454.9
49.0	481.0	0.541	1385.9	86.785	80.847	456.6
49.5	484.0	0.550	1419.7	86.666	81.653	458.3
50.0	487.1	0.560	1453.8	86.544	82.427	460.1
50.5	490.2	0.570	1488.5	86.417	83.176	461.9
51.0	493.4	0.580	1523.2	86.287	83.895	463.8
51.5	496.5	0.590	1558.0	86.153	84.590	465.7
52.0	499.7	0.600	1592.6	86.016	85.256	467.7
52.5	203.0	0.611	1627.3	85.875	85.897	469.7
53.0	206.2	0.621	1661.7	85.731	86.512	471.8
53.5	209.5	0.631	1696.0	85.584	87.104	473.9
54.0	212.9	0.642	1730.8	85.433	87.671	476.1
54.5	216.2	0.653	1765.8	85.279	88.217	478.4
55.0	219.6	0.664	1801.5	85.122	88.740	480.7
55.5	223.1	0.675	1838.4	84.961	89.243	483.0
56.0	226.5	0.687	1875.0	84.798	89.726	485.4
56.5	230.0	0.698	1908.8	84.632	90.190	487.9
57.0	233.6	0.709	1942.4	84.462	90.635	490.4

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TABLE VIII

TIME SEC	EARTH-VEL M/SEC	MACH	DYNPRES KG/M SQ	VEL-ELEV DEG	VEL-AZ DEG	SPACE-VEL M/SEC
57.5	237.1	0.721	1976.5	84.290	91.064	493.0
58.0	240.7	0.732	2010.0	84.115	91.474	495.6
58.5	244.3	0.744	2044.0	83.937	91.869	498.3
59.0	248.0	0.756	2077.6	83.756	92.247	501.1
59.5	251.7	0.769	2111.7	83.572	92.609	503.9
60.0	255.4	0.781	2145.4	83.386	92.955	506.7
60.5	259.1	0.793	2174.0	83.197	93.286	509.7
61.0	262.8	0.804	2200.5	83.006	93.601	512.6
61.5	266.6	0.817	2232.0	82.811	93.902	515.6
62.0	270.3	0.830	2261.9	82.580	94.046	518.8
62.5	274.2	0.843	2295.1	82.372	94.336	522.0
63.0	278.0	0.857	2327.4	82.164	94.622	525.2
63.5	281.9	0.870	2359.6	81.955	94.901	528.4
64.0	285.8	0.884	2390.6	81.746	95.172	531.7
64.5	289.8	0.898	2420.4	81.532	95.425	535.1
65.0	293.7	0.912	2448.1	81.316	95.639	538.5
65.5	297.7	0.926	2474.0	81.102	95.828	542.0
66.0	301.8	0.940	2498.1	80.889	96.014	545.5
66.5	305.8	0.954	2520.8	80.669	96.224	549.1
67.0	309.8	0.968	2543.5	80.445	96.429	552.7
67.5	313.9	0.983	2566.4	80.219	96.635	556.4
68.0	318.0	0.997	2588.9	79.992	96.822	560.1
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MACH 1						
68.100	318.8	1.000	2593.1	79.946	96.856	560.8
68.5	322.1	1.012	2609.1	79.765	96.982	563.8
69.0	326.2	1.027	2628.1	79.530	97.117	567.6
69.5	330.3	1.042	2646.9	79.293	97.250	571.5
70.0	334.4	1.058	2666.1	79.055	97.371	575.3
70.5	338.5	1.074	2684.4	78.820	97.454	579.2
71.0	342.6	1.091	2703.0	78.587	97.533	583.2
71.5	346.8	1.107	2720.0	78.353	97.606	587.2
72.0	351.0	1.124	2736.0	78.122	97.676	591.2
72.5	355.2	1.141	2752.1	77.892	97.776	595.3
73.0	359.5	1.159	2768.8	77.666	97.864	599.4
73.5	363.9	1.178	2785.6	77.442	97.951	603.6
74.0	368.3	1.197	2801.8	77.218	98.040	607.8
74.5	372.8	1.215	2810.2	76.995	98.121	612.1
75.0	377.3	1.234	2820.9	76.769	98.215	616.5
75.5	381.9	1.253	2831.7	76.540	98.313	621.0

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TABLE VIII

TIME SEC	EARTH-VEL M/SEC	MACH	DYNPRES KG/M SQ	VEL-ELEV DEG	VEL-AZ DEG	SPACE-VEL M/SEC
76.0	386.6	1.273	2840.6	76.311	98.400	625.6
76.5	391.3	1.293	2848.0	76.081	98.479	630.2
77.0	396.1	1.313	2852.9	75.849	98.557	634.9
77.5	401.0	1.333	2856.5	75.618	98.641	639.7
78.0	405.9	1.354	2859.1	75.386	98.732	644.6
78.5	410.8	1.373	2852.1	75.146	98.806	649.5
MAXIMUM DYNAMIC PRESSURE						
78.600	411.8	1.377	2850.4	75.097	98.820	650.5
79.0	415.8	1.397	2858.0	74.901	98.869	654.5
79.5	420.8	1.419	2859.3	74.654	98.920	659.6
80.0	426.0	1.441	2853.4	74.406	98.962	664.8
80.5	431.2	1.462	2842.2	74.160	98.996	670.0
81.0	436.4	1.482	2821.8	73.916	99.018	675.4
81.5	441.8	1.504	2811.0	73.671	99.026	680.8
82.0	447.2	1.529	2804.5	73.426	99.022	686.4
82.5	452.7	1.548	2774.8	73.181	99.013	691.9
83.0	458.2	1.565	2735.2	72.937	99.006	697.6
83.5	463.8	1.584	2702.8	72.696	99.005	703.3
84.0	469.5	1.600	2658.0	72.457	99.015	709.2
84.5	475.3	1.624	2638.2	72.222	99.035	715.0
85.0	481.2	1.650	2622.6	71.991	99.062	721.0
85.5	487.1	1.680	2619.3	71.762	99.092	727.1
86.0	493.2	1.704	2592.7	71.534	99.119	733.2
86.5	499.3	1.726	2556.0	71.306	99.141	739.4
87.0	505.5	1.746	2513.6	71.077	99.159	745.7
87.5	511.7	1.768	2476.3	70.847	99.170	752.1
88.0	518.0	1.796	2453.9	70.615	99.175	758.6
88.5	524.4	1.824	2427.2	70.384	99.178	765.2
89.0	530.8	1.848	2388.5	70.154	99.185	771.8
89.5	537.4	1.871	2346.4	69.927	99.196	778.5
90.0	544.0	1.898	2314.9	69.702	99.212	785.3
90.5	550.7	1.923	2273.6	69.479	99.229	792.2
91.0	557.5	1.945	2226.1	69.258	99.245	799.2
91.5	564.4	1.971	2187.6	69.038	99.259	806.2
92.0	571.3	1.992	2136.1	68.818	99.272	813.4
92.5	578.3	2.002	2063.9	68.598	99.285	820.6
93.0	585.4	2.018	2006.0	68.376	99.298	827.9
93.5	592.6	2.045	1969.0	68.153	99.310	835.4
94.0	599.9	2.063	1915.5	67.930	99.321	842.9

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TABLE VIII

TIME SEC	EARTH-VEL M/SEC	MACH	DYNPRES Kg/m Sq	VEL-ELEV DEG	VEL-AZ DEG	SPACE-VEL M/SEC
94.5	607.2	2.078	1857.3	67.706	99.331	850.5
95.0	614.7	2.105	1821.3	67.484	99.341	858.2
95.5	622.1	2.132	1784.0	67.263	99.351	866.0
96.0	629.7	2.153	1737.5	67.042	99.361	873.8
96.5	637.4	2.174	1690.9	66.822	99.369	881.8
97.0	645.1	2.205	1658.1	66.601	99.376	889.8
97.5	652.9	2.243	1636.5	66.379	99.384	897.9
98.0	660.8	2.262	1586.5	66.157	99.394	906.1
98.5	668.7	2.279	1534.6	65.935	99.406	914.4
99.0	676.8	2.300	1488.4	65.713	99.419	922.8
99.5	684.9	2.328	1452.4	65.492	99.432	931.3
100.0	693.1	2.358	1418.6	65.271	99.443	939.9
100.5	701.3	2.388	1384.0	65.050	99.455	948.5
101.0	709.7	2.415	1346.7	64.829	99.467	957.3
101.5	718.1	2.404	1269.7	64.609	99.480	966.1
102.0	726.6	2.421	1225.8	64.389	99.493	975.0
102.5	735.2	2.463	1206.5	64.169	99.506	984.0
103.0	743.9	2.497	1178.0	63.949	99.520	993.1
103.5	752.6	2.535	1152.6	63.729	99.535	1002.3
104.0	761.4	2.556	1112.4	63.508	99.548	1011.6
104.5	770.4	2.568	1066.1	63.287	99.560	1020.9
105.0	779.4	2.590	1029.2	63.064	99.571	1030.4
105.5	788.4	2.612	993.2	62.840	99.580	1040.0
106.0	797.6	2.647	967.1	62.615	99.591	1049.6
106.5	806.8	2.680	939.3	62.389	99.603	1059.4
107.0	816.2	2.712	911.7	62.162	99.617	1069.3
107.5	825.6	2.734	877.2	61.934	99.632	1079.2
108.0	835.1	2.752	841.1	61.706	99.646	1089.3
108.5	844.6	2.779	811.6	61.478	99.660	1099.4
109.0	854.3	2.805	782.0	61.250	99.673	1109.6
109.5	864.0	2.851	764.0	61.023	99.686	1119.9
110.0	873.8	2.871	732.2	60.795	99.698	1130.3
110.5	883.7	2.911	710.7	60.567	99.708	1140.8
111.0	893.7	2.930	679.7	60.339	99.718	1151.3
111.5	903.7	2.950	650.7	60.112	99.727	1162.0
112.0	913.9	2.977	625.1	59.883	99.738	1172.7
112.5	924.1	3.004	600.2	59.654	99.750	1183.6
113.0	934.4	3.034	577.5	59.424	99.764	1194.6
113.5	944.8	3.059	552.9	59.193	99.776	1205.6
114.0	955.3	3.077	527.1	58.960	99.786	1216.8

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TABLE VIII

TIME SEC	EARTH-VEL M/SEC	MACH	DYNPRES KG/M SQ	VEL-ELEV DEG	VEL-AZ DEG	SPACE-VEL M/SEC
114.5	965.9	3.134	514.9	58.727	99.793	1228.0
115.0	976.6	3.190	502.3	58.492	99.797	1239.4
115.5	987.3	3.214	480.7	58.257	99.800	1250.8
116.0	998.2	3.239	459.7	58.022	99.803	1262.4
116.5	1009.1	3.264	439.4	57.787	99.807	1274.0
117.0	1020.2	3.289	419.7	57.554	99.813	1285.8
117.5	1031.3	3.314	400.7	57.324	99.821	1297.6
118.0	1042.5	3.339	382.9	57.095	99.831	1309.5
118.5	1053.9	3.365	365.9	56.869	99.842	1321.6
119.0	1065.3	3.390	349.4	56.645	99.852	1333.7
119.5	1076.8	3.416	333.6	56.422	99.860	1345.9
120.0	1088.4	3.442	318.8	56.200	99.866	1358.2
120.5	1100.1	3.468	304.5	55.981	99.870	1370.6
121.0	1112.0	3.494	290.7	55.762	99.874	1383.1
121.5	1123.9	3.521	277.3	55.543	99.881	1395.7
122.0	1135.9	3.548	264.7	55.326	99.891	1408.4
122.5	1148.1	3.575	252.9	55.110	99.902	1421.2
123.0	1160.3	3.602	241.5	54.896	99.914	1434.1
123.5	1172.7	3.629	230.5	54.684	99.924	1447.1
124.0	1185.1	3.656	219.8	54.474	99.931	1460.2
124.5	1197.7	3.684	209.6	54.265	99.935	1473.4
125.0	1210.3	3.711	199.7	54.058	99.939	1486.7
125.5	1223.0	3.739	190.7	53.851	99.942	1500.1
126.0	1235.9	3.768	182.1	53.645	99.948	1513.7
126.5	1248.9	3.796	173.9	53.440	99.955	1527.3
127.0	1262.0	3.825	165.9	53.236	99.965	1541.1
127.5	1275.2	3.853	158.3	53.034	99.977	1555.0
128.0	1288.6	3.882	150.9	52.832	99.989	1568.9
128.5	1302.0	3.911	143.7	52.633	99.999	1583.0
129.0	1315.6	3.940	136.9	52.436	100.006	1597.2
129.5	1329.2	3.943	124.7	52.240	100.011	1611.5
130.0	1343.0	3.984	119.5	52.047	100.015	1625.9
130.5	1356.9	4.025	114.4	51.854	100.019	1640.4
131.0	1370.9	4.067	109.4	51.663	100.023	1655.0
131.5	1385.0	4.109	104.6	51.474	100.028	1669.8
132.0	1399.2	4.151	100.0	51.290	100.034	1684.6
132.5	1413.6	4.194	95.5	51.110	100.038	1699.6
133.0	1428.1	4.237	91.2	50.933	100.044	1714.7
133.5	1442.7	4.280	87.0	50.760	100.050	1729.8
134.0	1457.5	4.324	83.0	50.590	100.056	1745.1

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TABLE VIII

TIME SEC	EARTH-VEL M/SEC	MACH	DYNPRES KG/M SQ	VEL-ELEV DEG	VEL-AZ DEG	SPACE-VEL M/SEC
134.5	1472.4	4.368	79.1	50.423	100.061	1760.6
135.0	1487.4	4.427	76.1	50.260	100.066	1776.1
135.5	1502.5	4.493	73.1	50.100	100.069	1791.8
136.0	1517.8	4.560	70.1	49.943	100.071	1807.5
136.5	1533.2	4.629	67.1	49.789	100.071	1823.4
137.0	1548.8	4.699	64.2	49.639	100.072	1839.5
137.5	1564.5	4.770	61.4	49.491	100.072	1855.7
138.0	1580.3	4.843	58.6	49.346	100.074	1872.0
138.5	1596.3	4.917	55.9	49.204	100.076	1888.4
139.0	1612.4	4.992	53.2	49.066	100.078	1905.0
139.5	1628.7	5.070	50.6	48.929	100.080	1921.7
140.0	1645.1	5.149	48.1	48.796	100.083	1938.5
140.5	1661.7	5.229	45.6	48.666	100.086	1955.4
141.0	1678.3	5.312	43.2	48.538	100.089	1972.5
141.5	1695.2	5.396	40.8	48.413	100.092	1989.7
INBOARD ENGINE CUTOFF						
141.660	1700.6	5.423		40.1	48.373	1995.2
MAXIMUM LONGITUDINAL ACCELERATION						
141.800	1705.3	5.447		39.4	48.339	2000.1
BEGIN INBOARD ENGINE THRUST DECAY						
141.800	1705.3	5.447		39.4	48.339	2000.1
142.0	1709.6	5.474		38.4	48.293	2004.5
142.5	1717.3	5.532		35.8	48.183	2012.7
143.0	1724.6	5.589		33.4	48.075	2020.4
143.5	1731.9	5.647		31.0	47.967	2028.1
144.0	1738.7	5.705		28.8	47.862	2035.3
END INBOARD ENGINE THRUST DECAY						
144.250	1742.0	5.734		27.7	47.809	2038.9
144.5	1745.4	5.763		26.7	47.757	2042.5
145.0	1752.2	5.823		24.7	47.653	2049.7
145.5	1759.0	5.884		22.9	47.551	2056.9
146.0	1765.8	5.946		21.1	47.449	2064.1
146.5	1772.7	6.009		19.5	47.348	2071.4
147.0	1779.6	6.074		17.9	47.248	2078.7
147.5	1786.5	6.140		16.5	47.149	2086.0
148.0	1793.5	6.208		15.2	47.050	2093.4

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TABLE VIII

TIME SEC	EARTH-VEL M/SEC	MACH	DYNPRES KG/M SQ	VEL-ELEV DEG	VEL-AZ DEG	SPACE-VEL M/SEC
1481.5	1800.5	6.277	13.9	46.953	100.176	2100.8
1491.0	1807.5	6.347	12.7	46.856	100.183	2108.2
OUTBOARD ENGINE CUTOFF						
1491.090	1808.8	6.360	12.5	46.839	100.183	2109.6
BEGIN OUTBOARD ENGINE THRUST DECAY						
1491.200	1810.2	6.376	12.3	46.818	100.185	2111.1
MAXIMUM EARTH-FIXED VELOCITY						
1491.500	1811.8	6.410	11.6	46.761	100.190	2112.9
1501.0	1810.2	6.452	10.5	46.668	100.200	2111.8
1501.5	1807.6	6.493	9.4	46.574	100.211	2109.6
1511.0	1804.5	6.532	8.5	46.480	100.222	2107.0
1511.5	1801.2	6.571	7.6	46.386	100.233	2104.2
1521.0	1797.8	6.610	6.9	46.291	100.245	2101.3
1521.5	1794.4	6.651	6.2	46.195	100.257	2098.3
END OUTBOARD ENGINE THRUST DECAY						
1521.780	1792.5	6.674	5.8	46.142	100.264	2096.7
1531.0	1791.0	6.692	5.5	46.099	100.269	2095.4
1531.5	1787.5	6.734	4.9	46.003	100.281	2092.5
RETRO ROCKETS IGNITE						
1531.700	1786.1	6.751	4.7	45.964	100.285	2091.2
1541.0	1783.0	6.773	4.4	45.906	100.292	2088.4
1541.5	1777.1	6.807	3.9	45.808	100.303	2083.0
1551.0	1771.2	6.843	3.5	45.709	100.315	2077.7
1551.5	1765.5	6.841	3.1	45.610	100.326	2072.4
RETRO ROCKETS BURNOUT						
1551.900	1761.9	6.828	2.8	45.531	100.335	2069.3
1561.0	1761.2	6.825	2.7	45.511	100.338	2068.7
1561.5	1757.6	6.811	2.4	45.412	100.349	2065.6
1571.0	1754.1	6.797	2.1	45.313	100.360	2062.6
1571.5	1750.6	6.784	1.8	45.212	100.371	2059.6
1581.0	1747.1	6.770	1.6	45.112	100.382	2056.6
1581.5	1743.7	6.757	1.4	45.011	100.393	2053.6
1591.0	1740.2	6.743	1.2	44.910	100.404	2050.6
1591.5	1736.8	6.730	1.1	44.813	100.409	2047.7

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TABLE VIII

TIME SEC	EARTH-VEL M/SEC	MACH	DYNPRES KG/M SQ	VEL-ELEV DEG	VEL-AZ DEG	SPACE-VEL M/SEC
160.0	1733.4	6.717	0.9	44.710	100.416	2044.8
160.5	1729.9	6.704	0.8	44.602	100.422	2041.8
161.0	1726.6	6.691	0.7	44.498	100.428	2039.0
161.5	1723.2	6.678	0.6	44.394	100.434	2036.2
162.0	1719.9	6.665	0.6	44.290	100.440	2033.3
162.5	1716.6	6.652	0.5	44.185	100.446	2030.5
163.0	1713.3	6.639	0.4	44.080	100.452	2027.7
163.5	1710.0	6.626	0.4	43.975	100.458	2024.9
164.0	1706.7	6.613	0.3	43.869	100.464	2022.1
164.5	1703.4	6.602	0.3	43.762	100.471	2019.3
165.0	1700.1	6.589	0.3	43.656	100.477	2016.5
165.5	1696.8	6.576	0.2	43.548	100.483	2013.8
166.0	1693.5	6.564	0.2	43.441	100.489	2011.0
166.5	1690.2	6.551	0.2	43.333	100.495	2008.2
167.0	1687.0	6.538	0.2	43.224	100.501	2005.5
167.5	1683.7	6.526	0.1	43.116	100.507	2002.7
168.0	1680.5	6.513	0.1	43.006	100.513	2000.0
168.5	1677.2	6.501	0.1	42.897	100.519	1997.3
169.0	1674.0	6.488	0.1	42.787	100.525	1994.6
169.5	1670.8	6.476	0.1	42.676	100.531	1991.8
170.0	1667.6	6.463	0.1	42.565	100.537	1989.1
170.5	1664.4	6.451	0.1	42.454	100.543	1986.4
171.0	1661.2	6.438	0.1	42.342	100.549	1983.8
171.5	1658.0	6.426	0.1	42.230	100.556	1981.1
172.0	1654.8	6.414	0.0	42.117	100.562	1978.4
172.5	1651.6	6.401	0.0	42.004	100.568	1975.7
173.0	1648.4	6.389	0.0	41.890	100.574	1973.1
173.5	1645.3	6.377	0.0	41.776	100.580	1970.4
174.0	1642.1	6.364	0.0	41.662	100.586	1967.8
174.5	1639.0	6.352	0.0	41.547	100.592	1965.1
175.0	1635.8	6.340	0.0	41.432	100.598	1962.5
175.5	1632.7	6.328	0.0	41.316	100.604	1959.9
176.0	1629.6	6.316	0.0	41.200	100.610	1957.3
176.5	1626.4	6.304	0.0	41.083	100.616	1954.7
177.0	1623.3	6.292	0.0	40.966	100.622	1952.1
177.5	1620.2	6.280	0.0	40.849	100.628	1949.5
178.0	1617.1	6.268	0.0	40.731	100.634	1946.9
178.5	1614.0	6.256	0.0	40.613	100.640	1944.3
179.0	1611.0	6.244	0.0	40.494	100.646	1941.8
179.5	1607.9	6.232	0.0	40.374	100.652	1939.2

TABLE VIII

TIME SEC	EARTH-VEL M/SEC	MACH	DYNPRES KG/M SQ	VEL-ELEV DEG	VEL-AZ DEG	SPACE-VEL M/SEC
180.0	1604.8	6.220	0.0	40.255	100.658	1936.7
180.5	1601.8	6.208	0.0	40.135	100.664	1934.1
181.0	1598.7	6.196	0.0	40.014	100.670	1931.6
181.5	1595.7	6.185	0.0	39.893	100.676	1929.1
182.0	1592.7	6.173	0.0	39.771	100.682	1926.6
182.5	1589.6	6.161	0.0	39.649	100.688	1924.1
183.0	1586.6	6.149	0.0	39.527	100.694	1921.6
183.5	1583.6	6.138	0.0	39.404	100.700	1919.1
184.0	1580.6	6.126	0.0	39.280	100.706	1916.6
184.5	1577.6	6.115	0.0	39.156	100.712	1914.1
185.0	1574.6	6.103	0.0	39.032	100.718	1911.7
185.5	1571.7	6.091	0.0	38.907	100.724	1909.2
186.0	1568.7	6.080	0.0	38.782	100.730	1906.8
186.5	1565.8	6.068	0.0	38.656	100.736	1904.3
187.0	1562.8	6.057	0.0	38.530	100.742	1901.9
187.5	1559.9	6.046	0.0	38.403	100.748	1899.5
188.0	1556.9	6.034	0.0	38.276	100.753	1897.1
188.5	1554.0	6.023	0.0	38.148	100.759	1894.6
189.0	1551.1	6.012	0.0	38.020	100.765	1892.3
189.5	1548.2	6.000	0.0	37.892	100.771	1889.9
190.0	1545.3	5.989	0.0	37.762	100.777	1887.5
190.5	1542.4	5.978	0.0	37.633	100.783	1885.1
191.0	1539.5	5.967	0.0	37.503	100.789	1882.8
191.5	1536.7	5.956	0.0	37.372	100.795	1880.4
192.0	1533.8	5.945	0.0	37.241	100.801	1878.1
192.5	1531.0	5.934	0.0	37.110	100.807	1875.7
193.0	1528.1	5.923	0.0	36.978	100.813	1873.4
193.5	1525.3	5.912	0.0	36.845	100.819	1871.1
194.0	1522.5	5.901	0.0	36.712	100.825	1868.8
194.5	1519.7	5.890	0.0	36.579	100.831	1866.5
195.0	1516.9	5.879	0.0	36.445	100.836	1864.2
195.5	1514.1	5.868	0.0	36.310	100.842	1861.9
196.0	1511.3	5.857	0.0	36.175	100.848	1859.6
196.5	1508.5	5.847	0.0	36.040	100.854	1857.4
197.0	1505.7	5.836	0.0	35.904	100.860	1855.1
197.5	1503.0	5.825	0.0	35.767	100.866	1852.9
198.0	1500.2	5.815	0.0	35.631	100.872	1850.6
198.5	1497.5	5.804	0.0	35.493	100.878	1848.4
199.0	1494.8	5.793	0.0	35.355	100.884	1846.2
199.5	1492.0	5.783	0.0	35.217	100.889	1844.0

TABLE VIII

TIME SEC	EARTH-VEL M/SEC	MACH	DYNPRES KG/M SQ	VEL-ELEV DEG	VEL-AZ DEG	SPACE-VEL M/SEC
200.0	1489.3	5.772	0.0	35.078	100.895	1841.8
200.5	1486.6	5.762	0.0	34.938	100.901	1839.6
201.0	1483.9	5.751	0.0	34.798	100.907	1837.4
201.5	1481.3	5.741	0.0	34.658	100.913	1835.2
202.0	1478.6	5.731	0.0	34.517	100.919	1833.1
202.5	1475.9	5.720	0.0	34.375	100.925	1830.9
203.0	1473.3	5.710	0.0	34.233	100.931	1828.8
203.5	1470.6	5.700	0.0	34.091	100.936	1826.7
204.0	1468.0	5.690	0.0	33.948	100.942	1824.5
204.5	1465.4	5.679	0.0	33.804	100.948	1822.4
205.0	1462.8	5.669	0.0	33.660	100.954	1820.3
205.5	1460.2	5.659	0.0	33.516	100.960	1818.2
206.0	1457.6	5.649	0.0	33.371	100.966	1816.1
206.5	1455.0	5.639	0.0	33.225	100.972	1814.1
207.0	1452.4	5.629	0.0	33.079	100.977	1812.0
207.5	1449.9	5.619	0.0	32.933	100.983	1809.9
208.0	1447.3	5.610	0.0	32.786	100.989	1807.9
208.5	1444.8	5.600	0.0	32.638	100.995	1805.8
209.0	1442.3	5.590	0.0	32.490	101.001	1803.8
209.5	1439.8	5.580	0.0	32.341	101.006	1801.8
210.0	1437.2	5.570	0.0	32.192	101.012	1799.8
210.5	1434.8	5.561	0.0	32.042	101.018	1797.8
211.0	1432.3	5.551	0.0	31.892	101.024	1795.8
211.5	1429.8	5.542	0.0	31.741	101.030	1793.8
212.0	1427.3	5.532	0.0	31.590	101.036	1791.9
212.5	1424.9	5.522	0.0	31.438	101.041	1789.9
213.0	1422.4	5.513	0.0	31.286	101.047	1787.9
213.5	1420.0	5.504	0.0	31.133	101.053	1786.0
214.0	1417.6	5.494	0.0	30.980	101.059	1784.1
214.5	1415.2	5.485	0.0	30.826	101.064	1782.2
215.0	1412.8	5.476	0.0	30.672	101.070	1780.2
215.5	1410.4	5.466	0.0	30.517	101.076	1778.3
216.0	1408.0	5.457	0.0	30.361	101.082	1776.5
216.5	1405.7	5.448	0.0	30.206	101.088	1774.6
217.0	1403.3	5.439	0.0	30.049	101.093	1772.7
217.5	1401.0	5.430	0.0	29.892	101.099	1770.8
218.0	1398.6	5.421	0.0	29.735	101.105	1769.0
218.5	1396.3	5.412	0.0	29.577	101.111	1767.2
219.0	1394.0	5.403	0.0	29.418	101.116	1765.3
219.5	1391.7	5.394	0.0	29.259	101.122	1763.5

TABLE VIII

TIME SEC	EARTH-VEL M/SEC	MACH	DYNPRES KG/M SQ	VEL-ELEV DEG	VEL-AZ DEG	SPACE-VEL M/SEC
220.0	1389.4	5.385	0.0	29.099	101.128	1761.7
220.5	1387.2	5.376	0.0	28.939	101.134	1759.9
221.0	1384.9	5.367	0.0	28.779	101.139	1758.1
221.5	1382.6	5.359	0.0	28.618	101.145	1756.3
222.0	1380.4	5.350	0.0	28.456	101.151	1754.6
222.5	1378.2	5.341	0.0	28.294	101.157	1752.8
223.0	1376.0	5.333	0.0	28.131	101.162	1751.1
223.5	1373.8	5.324	0.0	27.968	101.168	1749.3
224.0	1371.6	5.316	0.0	27.804	101.174	1747.6
224.5	1369.4	5.307	0.0	27.640	101.180	1745.9
225.0	1367.2	5.299	0.0	27.475	101.185	1744.2
225.5	1365.1	5.291	0.0	27.310	101.191	1742.5
226.0	1362.9	5.282	0.0	27.144	101.197	1740.8
226.5	1360.8	5.274	0.0	26.977	101.203	1739.2
227.0	1358.7	5.266	0.0	26.811	101.208	1737.5
227.5	1356.6	5.258	0.0	26.643	101.214	1735.8
228.0	1354.5	5.250	0.0	26.475	101.220	1734.2
228.5	1352.4	5.242	0.0	26.307	101.225	1732.6
229.0	1350.4	5.234	0.0	26.138	101.231	1731.0
229.5	1348.3	5.226	0.0	25.968	101.237	1729.4
230.0	1346.3	5.218	0.0	25.799	101.242	1727.8
230.5	1344.2	5.210	0.0	25.628	101.248	1726.2
231.0	1342.2	5.202	0.0	25.457	101.254	1724.6
231.5	1340.2	5.194	0.0	25.286	101.260	1723.0
232.0	1338.2	5.187	0.0	25.114	101.265	1721.5
232.5	1336.3	5.179	0.0	24.941	101.271	1719.9
233.0	1334.3	5.171	0.0	24.768	101.277	1718.4
233.5	1332.3	5.164	0.0	24.595	101.282	1716.9
234.0	1330.4	5.156	0.0	24.421	101.288	1715.4
234.5	1328.5	5.149	0.0	24.246	101.294	1713.9
235.0	1326.6	5.141	0.0	24.071	101.299	1712.4
235.5	1324.7	5.134	0.0	23.895	101.305	1710.9
236.0	1322.8	5.127	0.0	23.719	101.311	1709.5
236.5	1320.9	5.120	0.0	23.543	101.316	1708.0
237.0	1319.1	5.112	0.0	23.366	101.322	1706.6
237.5	1317.2	5.105	0.0	23.188	101.328	1705.1
238.0	1315.4	5.098	0.0	23.010	101.333	1703.7
238.5	1313.6	5.091	0.0	22.832	101.339	1702.3
239.0	1311.8	5.084	0.0	22.653	101.344	1700.9
239.5	1310.0	5.077	0.0	22.473	101.350	1699.5

TABLE VIII

TIME SEC	EARTH-VEL M/SEC	MACH	DYNPRES KG/M ² SQ	VEL-ELEV DEG	VEL-AZ DEG	SPACE-VEL M/SEC
240.0	1308.2	5.070	0.0	22.293	101.356	1698.1
240.5	1306.4	5.063	0.0	22.113	101.361	1696.8
241.0	1304.7	5.057	0.0	21.932	101.367	1695.4
241.5	1302.9	5.050	0.0	21.750	101.373	1694.1
242.0	1301.2	5.043	0.0	21.568	101.378	1692.8
242.5	1299.5	5.037	0.0	21.386	101.384	1691.4
243.0	1297.8	5.030	0.0	21.203	101.389	1690.1
243.5	1296.1	5.023	0.0	21.020	101.395	1688.8
244.0	1294.5	5.017	0.0	20.836	101.401	1687.6
244.5	1292.8	5.011	0.0	20.652	101.406	1686.3
245.0	1291.2	5.004	0.0	20.467	101.412	1685.0
245.5	1289.6	4.998	0.0	20.282	101.417	1683.8
246.0	1287.9	4.992	0.0	20.096	101.423	1682.5
246.5	1286.3	4.986	0.0	19.910	101.429	1681.3
247.0	1284.8	4.979	0.0	19.723	101.434	1680.1
247.5	1283.2	4.973	0.0	19.536	101.440	1678.9
248.0	1281.6	4.967	0.0	19.349	101.445	1677.7
248.5	1280.1	4.961	0.0	19.161	101.451	1676.5
249.0	1278.6	4.955	0.0	18.972	101.457	1675.4
249.5	1277.1	4.950	0.0	18.784	101.462	1674.2
250.0	1275.6	4.944	0.0	18.594	101.468	1673.1
250.5	1274.1	4.938	0.0	18.404	101.473	1671.9
251.0	1272.6	4.932	0.0	18.214	101.479	1670.8
251.5	1271.2	4.927	0.0	18.024	101.484	1669.7
252.0	1269.8	4.921	0.0	17.833	101.490	1668.6
252.5	1268.3	4.916	0.0	17.641	101.496	1667.5
253.0	1266.9	4.910	0.0	17.449	101.501	1666.5
253.5	1265.5	4.905	0.0	17.257	101.507	1665.4
254.0	1264.2	4.900	0.0	17.064	101.512	1664.3
254.5	1262.8	4.894	0.0	16.871	101.518	1663.3
255.0	1261.5	4.889	0.0	16.677	101.523	1662.3
255.5	1260.1	4.884	0.0	16.484	101.529	1661.3
256.0	1258.8	4.879	0.0	16.289	101.534	1660.3
256.5	1257.5	4.874	0.0	16.094	101.540	1659.3
257.0	1256.2	4.869	0.0	15.899	101.545	1658.3
257.5	1255.0	4.864	0.0	15.704	101.551	1657.3
258.0	1253.7	4.859	0.0	15.508	101.556	1656.4
258.5	1252.5	4.854	0.0	15.311	101.562	1655.5
259.0	1251.3	4.850	0.0	15.115	101.567	1654.5
259.5	1250.1	4.845	0.0	14.917	101.573	1653.6

TABLE VIII

TIME SEC	EARTH-VEL M/SEC	MACH	DYNPRES KG/M SQ	VEL-ELEV DEG	VEL-AZ DEG	SPACE-VEL M/SEC
260.0	1248.9	4.840	0.0	14.720	101.578	1652.7
260.5	1247.7	4.836	0.0	14.522	101.584	1651.8
261.0	1246.5	4.831	0.0	14.324	101.590	1650.9
261.5	1245.4	4.827	0.0	14.125	101.595	1650.1
262.0	1244.3	4.822	0.0	13.926	101.601	1649.2
262.5	1243.2	4.818	0.0	13.727	101.606	1648.4
263.0	1242.1	4.814	0.0	13.527	101.611	1647.5
263.5	1241.0	4.810	0.0	13.327	101.617	1646.7
264.0	1239.9	4.806	0.0	13.127	101.622	1645.9
264.5	1238.9	4.802	0.0	12.926	101.628	1645.1
265.0	1237.8	4.798	0.0	12.725	101.633	1644.3
265.5	1236.8	4.794	0.0	12.524	101.639	1643.6
266.0	1235.8	4.790	0.0	12.322	101.644	1642.8
266.5	1234.8	4.786	0.0	12.120	101.650	1642.1
267.0	1233.9	4.782	0.0	11.918	101.655	1641.3
267.5	1232.9	4.778	0.0	11.715	101.661	1640.6
268.0	1232.0	4.775	0.0	11.512	101.666	1639.9
268.5	1231.0	4.771	0.0	11.309	101.672	1639.2
269.0	1230.1	4.768	0.0	11.105	101.677	1638.5
269.5	1229.3	4.764	0.0	10.901	101.683	1637.9
270.0	1228.4	4.761	0.0	10.697	101.688	1637.2
270.5	1227.5	4.758	0.0	10.493	101.693	1636.6
271.0	1226.7	4.754	0.0	10.288	101.699	1635.9
271.5	1225.9	4.751	0.0	10.083	101.704	1635.3
272.0	1225.1	4.748	0.0	9.877	101.710	1634.7
272.5	1224.3	4.745	0.0	9.672	101.715	1634.1
273.0	1223.5	4.742	0.0	9.466	101.721	1633.5
273.5	1222.7	4.739	0.0	9.260	101.726	1633.0
274.0	1222.0	4.736	0.0	9.054	101.731	1632.4
274.5	1221.3	4.733	0.0	8.847	101.737	1631.9
275.0	1220.6	4.731	0.0	8.640	101.742	1631.3
275.5	1219.9	4.728	0.0	8.433	101.748	1630.8
276.0	1219.2	4.725	0.0	8.226	101.753	1630.3
276.5	1218.6	4.723	0.0	8.019	101.759	1629.8
277.0	1217.9	4.720	0.0	7.811	101.764	1629.3
277.5	1217.3	4.718	0.0	7.603	101.769	1628.9
278.0	1216.7	4.716	0.0	7.395	101.775	1628.4
278.5	1216.1	4.713	0.0	7.186	101.780	1628.0
279.0	1215.5	4.711	0.0	6.978	101.786	1627.5
279.5	1215.0	4.709	0.0	6.769	101.791	1627.1

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TABLE VIII

TIME SEC	EARTH-VEL M/SEC	MACH	DYNPRES KG/M SQ	VEL-ELEV DEG	VEL-AZ DEG	SPACE-VEL M/SEC
280.0	1214.4	4.707	0.0	6.560	101.796	1626.7
280.5	1213.9	4.705	0.0	6.351	101.802	1626.3
281.0	1213.4	4.703	0.0	6.142	101.807	1625.9
281.5	1212.9	4.701	0.0	5.932	101.812	1625.6
282.0	1212.4	4.699	0.0	5.723	101.818	1625.2
282.5	1212.0	4.697	0.0	5.513	101.823	1624.9
283.0	1211.5	4.696	0.0	5.303	101.829	1624.6
283.5	1211.1	4.694	0.0	5.093	101.834	1624.2
284.0	1210.7	4.692	0.0	4.883	101.839	1623.9
284.5	1210.3	4.691	0.0	4.672	101.845	1623.6
285.0	1210.0	4.690	0.0	4.462	101.850	1623.4
285.5	1209.6	4.688	0.0	4.251	101.855	1623.1
286.0	1209.3	4.687	0.0	4.040	101.861	1622.9
286.5	1209.0	4.686	0.0	3.830	101.866	1622.6
287.0	1208.7	4.684	0.0	3.619	101.871	1622.4
287.5	1208.4	4.683	0.0	3.408	101.877	1622.2
288.0	1208.1	4.682	0.0	3.196	101.882	1622.0
288.5	1207.9	4.681	0.0	2.985	101.887	1621.8
289.0	1207.6	4.680	0.0	2.774	101.893	1621.6
289.5	1207.4	4.680	0.0	2.562	101.898	1621.4
290.0	1207.2	4.679	0.0	2.351	101.903	1621.3
290.5	1207.0	4.678	0.0	2.139	101.909	1621.2
291.0	1206.9	4.677	0.0	1.928	101.914	1621.0
291.5	1206.7	4.677	0.0	1.716	101.919	1620.9
WATER RELEASE						
292.000	1206.6	4.676	0.0	1.504	101.925	1620.8

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SATURN SA-3 POSTFLIGHT TRAJECTORY (U)

By John P. Sheats

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